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QUARTERLY

A circular seal with the words "THE CHICAGO MEDICAL SCHOOL" around the top and "MEDICAL" around the bottom. In the center is a caduceus (a staff with two snakes entwined and wings at the top).

THE CHICAGO MEDICAL SCHOOL

VOLUME 2, NUMBER 3

JUNE, 1942

**GIVE YOUR BLOOD
TO SAVE A LIFE**



The
**AMERICAN NATIONAL RED CROSS
BLOOD DONOR SERVICE**

In the fight for victory and subsequent freedom, every field of endeavor must be welded into a smoothly functioning unit, and one of the most important structures of this unit is the total field of Science • we present herein a broad aspect of many parts of Science mainly applicable in Medicine and its counterparts. Destinies sometimes are directed by disease. Dr. Neiman in his article on "Bacteriology and War" covers ably the work done and planned by bacteriologists in the prophylaxis and combatting of bacterial scourges peculiar to war-time • The value of plasma, in its new desiccated form or as whole blood was proven conclusively at the attack on Pearl Harbor. Its humble and obscure beginning is told poignantly by Dr. Barnard in his story of the first formation of a Blood Bank • Quick and reliable anesthesia for best results has always been the cry of the surgeon, both in Peace and War. Affiliated for many years with the Koster Clinic, Dr. Blumenfeld gives detailed information about the beneficial use of Spinal Anesthesia • Under the suddenness of total war, Great Britain had a monumental task in reorganizing hospitals for efficient care of her war-ravaged people. How they solved this great problem and what its applications are to the future are explained by Mr. Samorajski • Scientific literature is replete with terminology which is coined to hide the basic ignorance concerning these subjects. This is particularly applicable to the subject of neuroses. Dr. Berlin's paper on "Foundation for the Viscero-Somatic Symptomatology in the Neuroses" does much to lift the cloak of misinformation and ignorance concerning the physical counterparts of these afflictions • It is a problem of gigantic proportions to maintain health in a people at peace but the thousand-fold more difficult to do the same in a people under constant threat of bombing. Mr. Rabeau offers some factual data concerning the work done in London to protect the population during the holocaust days of bombing • The how, why, when and where of the Blood Donor Service and the excellent work it is doing in supplying life-giving fluid to the wounded is explained by Mr. Weisberg • Report of pathology and discussion on "Dissecting Aneurysm of Aorta" is presented by Dr. J. D. Kirshbaum • Pertinent abstracts, as usual, by Mr. H. Sloan • and information concerning Faculty activities • In conclusion, we say "Good Luck" to our Faculty and Alumni in active service with the Medical Corps.

THE QUARTERLY

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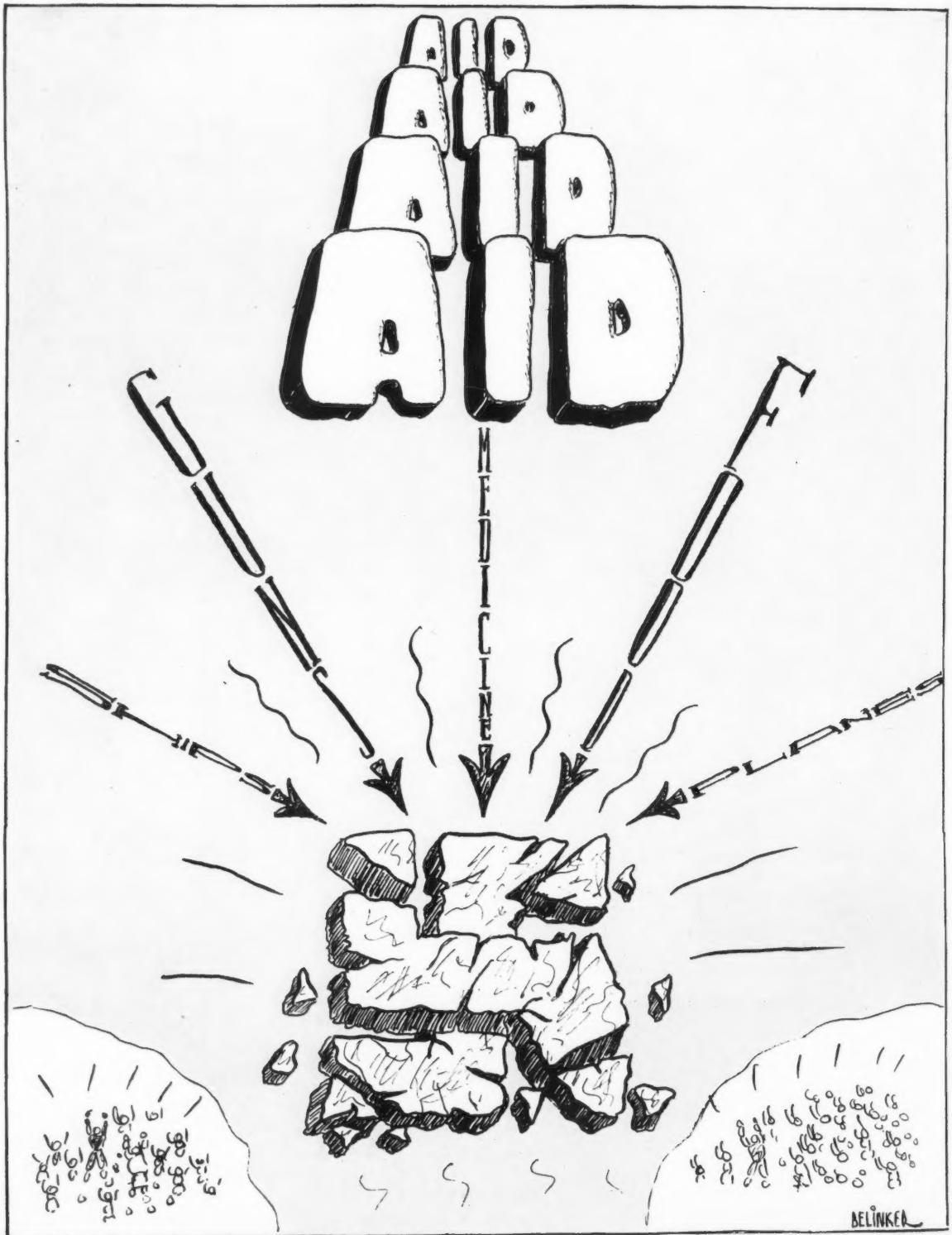
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EDITORIALS

THE summer of 1942 will mark a decisive period in American History. During the months ahead, while our students swelter through a Chicago summer, pursuing our accelerated medical course, great battles will be fought to determine whether the forces of Good or Evil are to prevail. The tempo of America's preparation for her decisive role in this war increases. Our armed forces grow in strength, our economic and productive strength is fast becoming organized for total war.

The fate of civilization for decades to come rests in our hands. Our Russian allies are turning back the Nazi hordes in the east and it is time for America and Britain, with their stores of manpower and material, to carry the war home to Germany. The Fascist beast is almost trapped and we have the means to finish him now.

• • •

THE medical profession has a vital part to play in the winning of the war. Our armed forces and civilian populations will be in dire need of medical personnel and it is hoped that we will be given our just place in the solution of this national problem. Recently we have learned that our graduates are being accepted as medical officers in the Army. The news is good and it is hoped that many more of our graduates and students will be so commissioned. When every productive facility of use to the war effort is being mobilized by our Country, certainly our School, with its capacity to produce good physicians, will be so used.

• • •

SOME interesting facts are to be noted in the issue of the Journal of the American Medical Association for May 9th, 1942. The results of State Board examinations for the year 1941 are listed, and we learn that fifty-one candidates from an "unapproved school" took and passed the Illinois State Boards, yielding a total of 0.0% failures. Whereas the "unapproved" school has not been identified, we know which school that is. The figures may be said to be inconclusive, but they are interesting, nevertheless.

BACTERIOLOGY AND WAR

IRWIN S. NEIMAN, Ph.D., M.D.

Assistant Professor of Bacteriology, The Chicago Medical School

In time of emergency many changes take place; many industries, trades and pursuits of all types must take stock of their potentialities with regard to the war effort. Science directs its forces to better the effort of the country to which it owes its loyalty. However, the international character of science complicates the situation because it has been the pride and the aim of science to make its discoveries common knowledge wherever possible. Bacteriology, along with other branches of biology, is subject to this rather unique situation. There have been remarkable advances made in all branches of the sciences in the last fifty years, but in this article we shall place emphasis only on those concerned with bacteriology and their relation to modern warfare.

Probably the most important contributions of bacteriology that are applicable to war are those concerned with the prevention of infectious and contagious diseases. It would not take a great deal of research on the part of anyone, with a bent in that direction, to find that as many battles have been won by microorganisms as have been won by generals. Napoleon's retreat from Moscow was as much the fault of typhus fever as it was the fault of the severe Russian winter. To bring it closer to home, the Japanese possibly would not have overrun Bataan so quickly if not for the help of the plasmodia of malaria.

Just what are the infectious diseases which take their toll in war-time? Yellow fever, influenza, malaria, typhus fever, typhoid fever, trench fever, tuberculosis, dysentery, tetanus, gas gangrene, measles, mumps, chickenpox, pneumonia of all types, gonorrhœa, syphilis, epidemic meningitis. A mere listing is not enough. We must be cognizant of the particular environmental conditions which are a necessary adjunct of all infectious diseases. As an example we do not have to worry about yellow fever among the troops stationed in the northern theatres of war, but we do have to give a great deal of attention to those troops going to areas where the *Aedes Egypti* mosquito is plentiful. In the case of yellow fever, at the present time we do not expect a repetition of our sad experiences in the Spanish-American war. There is available a mouse-brain phenolized virus which has given adequate proof of its immunizing value against

the ordinary type of yellow fever. However, whether or not our modern vaccine will be effective against jungle yellow fever as it exists in large parts of the northern half of South America remains to be seen.

Vaccines against typhoid and paratyphoid fever have been amply demonstrated to be effective. However, with troops going to the far-East we must be on guard against Shiga dysentery. Of course, a vaccine has been developed and supposedly is in use in the far East, but it has never been given a fair trial in this country because bacillary dysentery never presented the problem here that it does in Japan.

In the last war, troops of all nations suffered from the pandemic of influenza. Our progress since then has been to determine that influenza is caused by a filterable virus, but we have not been very successful in devising a means of prevention should another epidemic threaten. There is now under examination a vaccine which shows some elements of promise. This vaccine is made of a combination of influenza and canine distemper virus cultured in the lungs of ferrets and made up by grinding the infected lungs. The United States Navy is giving the evidence to date very detailed attention.

In other diseases we have other courses of action to reduce and prevent incidence. Epidemic meningitis may be efficiently prevented by adequate spacing between beds to cut down droplet infection. This was demonstrated in the last war. Since then several advances have been made. We have more rapid diagnostic procedures, thanks to the work of Geoffrey Rake. We may make a rapid type differentiation with the aid of the precipitation test on spinal fluid from suspect cases and have at hand for therapeutic purposes not only type specific antibacterial antiserum but antitoxin as well.

For the anaerobic spore-formers that have been the scourge of wounded soldiers for many generations of wars, we have at hand very effective vaccines in the form of toxoids. Against tetanus in particular, the alum precipitated toxoid has been shown to be effective. We have the German scientists to thank for a combined anti-gas gangrene toxoid, supposedly effective against the toxins of all three organisms known to cause gas gangrene.

(Continued one page 37)

MISTER, CAN YOU SPARE SOME BLOOD?

ROBERT D. BARNARD, M.D.

Technical Supervisor, the Blood Bank,
Cook County Hospital

(Dedicated to the late Dr. Bernard Fantus, originator and founder of the "Blood Bank," to whose memory this article is dedicated, and to whose sagacity and altruism all blood banks are a living monument.)

* * * * *

There was agony in his blanched face. He held his fist close into the pit of his stomach to push down the pain that only food had ever relieved. He had meant to ask of the stranger whom he had accosted,

"Mister, can you spare a dime?"

But with a final vicious searing, the pain burned through into his heart and dissipated through his body. He fell in a heap on the sidewalk.

"Come on, Joe," said the stranger's companion. "The bum's putting on an act."

The stranger looked his doubt. "No. Seems pretty sick. Maybe we'd better call a cop."

* * * * *

"What now?" asked the admitting room interne of the redfaced policeman who dismounted puffily from the ambulance.

"Fellow collapsed in the loop."

"Unconscious?"

"Nope. Pretty sick, though." They laid the stretcher on the table and the interne took note. About thirty, long, thin face, white and dotted with sweat.

"How do you feel, bud?"

"A little better, now."

"Where was the pain?"

Feebly he raised his hand and indicated the pit of his stomach. "It was here," he said. "Not so bad now. Kinda sore all over."

The interne felt the belly. Rigid as a board.

"Ruptured gastric ulcer," he said to the social service worker. To the orderly who stood nearby, "Take him up and get him ready for surgery."

They make snap diagnoses at the City General. They have to; and the accuracy is surprising.

"Nearest relative?" asked the social service worker after she had found out the name, absence of address, and other pertinent data, such as religion. The man shook his head drowsily. They had given him a hypo.

* * * * *

"That guy," announced the junior interne on this particular service as he came into the interne's quarters, "had a hemorrhage, with perforation—both."

He surveyed the powdered whiteness of his hands.

The fat resident, one of the four "men in white" seated around the table, raised the corner of down card. Slowly and fearfully he brought the line of vision of his cocked right eye to it. Snap! and the edge went down. There was no inkling in that face trained by four years of hospital poker. "They never hemorrhage with perforation," he said with smug finality that should have put the interne in his place.

But this interne didn't know his place.

"They never do; but this one did. I ought to know. I scrubbed."

The fat resident rubbed his eye to get it ready for a peek at the next down card. "Better give him some



blood, then." He hunched his shoulders to start the betting.

"No relatives," said the interne morosely.

"No friends?"

"No nothin'."

"'Stoo bad."

* * * * *

The interne went up to the ward. He couldn't afford poker, not the way *they* played. And he hadn't gotten accustomed to sleeping away his idle hours. That would come later. He had a large service, this interne. The senior was out most of the time now, looking for a location. The City General is very understaffed, but it happened that for this day his mandatory duties had all been performed. He thought he'd put in a few progress notes; they filled the charts.

So he dropped into a chair at the desk where he was in the way of the nurses and proceeded to scrawl, "about the same" and "no improvement" on a few charts indiscriminately. While he wrote he saw again how his hands were staying clean. Hardly time to collect a little dirt, and then scrub, scrub for twelve minutes by the clock. That's the way it had to be, even if you had just scrubbed a short time before.

His charts exhausted, he went over to Female 31, which is not a female but another ward. There was a little activity there. Around one of the beds, curtains had been drawn. In the next bed a young girl sat high on a backrest, with knees propped up. The head of her bed was elevated and she looked as though she were on a throne. She was breathing rapidly and her eyes were bright, restless, and roving. She tried to smile as the interne came near. She was a brave kid. She didn't know she was going to die. But the interne knew it. She had had a septic abortion. They got the name of the performer for purpose of record. The girl had peritonitis and she was bound to die. It was just another one of those things. Always fatal, but without the saving grace of inevitability. Always cursed with that futile, tantalizing hope—blood transfusion.

It had been advocated. There were plenty of prospective donors. They had been filing to the laboratory for some hours, a procession of brothers, cousins, and friends of the family, tired men in blue starched shirts, heavy set, grim-faced women. They gave, each, a small drop of blood as a sample, but in each case, after a short wait, "Sorry," the technician would say, "but your blood is not suitable. No, please don't misunderstand. It's good blood, all right. It just doesn't match."

Maybe there was a little spasm of relief, inward and masked, when it was said to each in turn, but then, that could be excused. Blood transfusion is awesome and people don't know what to expect unless they've been through it before. They were all willing to give, these people. They all had some blood to spare. But for the girl who had had the abortion and who had become infected, their blood was not suitable.

"She's a Type IV," soliloquized the interne as he felt her racing pulse. And that means she must have Type IV blood. No other blood will do. A very common type, yet not a drop so far in the bunch. Now the fellow with the ruptured ulcer, he's a Type I and we could give him any blood. Any of these people would do. But they are her friends and not his."

The technician was in a frenzy. She downed her supper and scurried back to the laboratory. All rou-

tine work had been left to wait and the residents were caustic in asking for reports.

"Isn't that urine done yet? It's been up there three hours. What's that? Do it myself? Listen here, young lady, I'll have you understand—" But she had hung up. A blood transfusion is an emergency and everything else must wait.

Late that night, the girl with the septic abortion died. They had not found a suitable donor. Even if they had, she would have died.

"Transfusions for septic abortions are just a waste of time and blood, anyway," thought the junior interne, whom they had summoned from bed to pronounce her dead. The nurses knew she was dead before they called him. They had had to call him, nevertheless. It was a hospital rule.

Now they would go after the abortionist. He had probably done it out of charity, but that did not make any difference.

* * * * *

"I wish I could get a pint of blood for that guy," fussed the junior interne to himself, as he pulled off his shoes and sat on the edge of his bed. It was after his call to the deathside of the girl with the septic abortion. He was tired, but unable to sleep. In fact, he had been lying awake when he got the call to pronounce her dead. He did not know why he had not slept, but he hadn't much wanted to. He was despondent, discouraged, and disconsolate, too much so to sleep.

Reaching over, he selected the longest cigarette butt that the abandoned poker table provided. With one leg crossed over the other knee he pulled at his toes and brooded.

"The ulcer would be better off dead. Gee! I wish I could get a pint of blood for him!"

He drew a last puff on the cigarette, saw with practiced eye that it lacked further finger room, and so tossed the stub out of the window. He climbed back into bed and pulled the string contraption that had been rigged up to turn off the light. Then, lying there with hands behind his head, he gazed at the beginning morning twilight as it struggled through the sooty air of the heart of the city slums.

The door opened and the fat resident came in. Turning on the light he saw that the interne was awake and grunted either in greeting or in apology. He had on his precious street clothes which he carefully removed and placed on a hanger. He was cold sober, therefore, the interne reasoned, he must have been out with his own girl. The fat resident sat on his bed and started to remove his shoes. Calmly and

slowly—he wouldn't have to be up until afternoon.

"The septic abortion went out," said the interne.

The resident waddled out of his underwear, unpeeled his socks, and stood up in all his naked glory.

"Well, that pint of blood was wasted."

"What blood? She didn't have a transfusion."

"Is that so? I took the blood from the donor myself."

"What blood from what donor?"

"The Catholic Charities sent down a professional, a universal donor. I drew the blood and crossmatched. It was O. K."

"Yeah. And then what?"

"I put it in the ice box. I was off at six and I told the "soop" to tell you to give it."

"She must have forgotten, because she didn't say a word. Why don't you write your orders as you're supposed to? That's a helluva note!"

The resident yawned.

"Oh, I don't know as it makes any difference. It's just a waste of blood to give it to a septic abortion."

"Well, it's wasted now for sure. A lot of good it does up in the ice box. I suppose it's still there."

The resident almost decided that he'd take a bath, but he beat down the yearning and rolled into bed.

"I suppose so," as he pulled his division of the string attached to the light switch.

The resident always slept "in the raw." There had been a time when they would send a nurse in to wake him after the phone had been tried without effect. Sleeping "in the raw" had frustrated that. Now they sent in an orderly who didn't care whether the resident was "raw" or not, but still he slept that way from force of habit.

The interne lay awake with hands behind his head and watched the gray daylight defeat the sooty air and light up the roof of the nurse's home. Suddenly he jumped up and pummelled the resident.

"Say," he shouted, "do you reckon that blood's good any more?"

Snores were the response, though the resident did stir resentfully. It was hopeless to try to wake that fellow. They had had trouble with him for all four years in the hospital.

"Let me think," thought the interne. "Wasn't it Dr. —— who told us that in the army when they were so rushed they'd put a bunch of bloods in the ice box and then use them a day later?"

He scrambled into his white duck pants and up to the laboratory. In the ice box he found a conical flask. There were two layers therein, one thick red below, these were the corpuscles, above it, an amber limpid

liquid, the serum. He swirled the flask gently to mix the contents. Then, when they looked like rich whole blood, he ran a pan of tepid water and put the flask into it to remove the chill.

Down in the ward, he went to the bed of the ulcer patient and took from the ear a few more drops of that blood of which the patient had so little to spare. Only a few drops. Then he returned to the laboratory. A half hour later, he was back in the ward.

"Set up for a transfusion," he told the head nurse. The latter was grumpy. Trying to get ready for the day force and now a transfusion.

"Where's the donor?"

"I've got the blood, typed and cross-matched."

"Hm. The resident is the one to order a transfusion."

"The resident told me to give it," lied the interne. "He'll write the order later."

"Which patient?"

"The guy with the ulcer."

* * * * *

It is a month later. The executive staff is having a conference. The social service worker is talking—as usual.

"I believe that a hospital should not stop to function insofar as its relationship to a patient is concerned until that patient is rehabilitated and enabled to go back to society with a means of livelihood. I see no sense in making people physically well and then sending them out, unaided, to cope with the same environment of vice and malnutrition that was responsible for their being here in the first place."

The chief of staff was feeling mean. There was a mean election coming up. There was a reform party. The City General was the object of attack.

"You are perfectly right, Miss Smudge. But I doubt if we can make it our duty to reach out and change the workings of the economic system. I think that for the present, we had better resign ourselves to the fact that this is a hospital and to delimit our efforts—you, for your part in keeping out patients who can afford to pay a private hospital bill, while the medical staff will stick to the alleviation of physical pain and the prolongation of the temporal life."

"You see," said the doctor, "you social service workers are irredeemable optimists, either by nature or by profession, I don't know which; whereas we medical men are wholesome pessimists. We have to be to survive. We go along on the thesis that all we can do is temporize with life until life is gone. We never

(Continued on page 38)

SPINAL ANESTHESIA, A PLEA FOR ITS ROUTINE ADOPTION

IRVING BLUMENFELD, M.D.

I am quite certain that the above title is almost immediately placed in the "believe it or not" category by the majority of readers. This is truly unjustifiable but notwithstanding the fact that this sentiment is almost universal, I am led to believe that this is no lack of knowledge but that there has not been enough of the proper publicity given to the method. It is my purpose here to acquaint you better with the advantages of spinal anesthesia and so eliminate the fear and reproach which surround its use.

I am aware of the fact that in some of our larger clinics and more modern hospitals they are using spinal anesthesia but in only certain selected cases and with excessive precaution. There is only one place in which it is used routinely, and in surgery above the diaphragm, and that is at the Koster Clinic in Brooklyn, New York.

It was my privilege to spend one year with Dr. Harry Koster at the Crown Heights Hospital. Besides being a master surgeon Dr. Koster is one of our pioneers in the work on spinal anesthesia. Since 1925 he has employed this form of anesthesia routinely in over 11,000 major operations and began to include it in his surgery above the diaphragm in 1927. By means of carefully controlled and repeated experiments on laboratory animals and through his vast clinical experience, Dr. Koster has conclusively proven that spinal anesthesia is by far superior to any other form of anesthesia as far as efficacy, safety and applicability to any form of surgery. The other men at the hospital are quick to recognize its possibilities and have also adopted subarachnoid block in their work—Dr. Nathan Wolf having performed his first mastoidectomy with it on July 24, 1928.

One of the main reasons for which this type of anesthesia has been condemned is the danger of respiratory paralysis as the direct result of the action of the drug on the respiratory center in the medulla and on the roots of origin of the phrenic nerve, namely, the third, fourth and fifth cervical. There is absolutely no reason in theory or fact for such an objection. Koster abolishes it by applying some of the more elementary principles of physiology.

We are aware of the fact that there are many differences between the sensory and motor elements of the nervous system. Let us consider a few examples.

Sensory nerve endings are poisoned by cocaine and not affected by curare. Motor endings are paralyzed by curare. Ammonia is a very strong stimulant to sensory endings in a wound, producing violent pain, but has scarcely any effect on motor endings. This partial selective affinity of the anesthetics of the cocaine series for sensory nerves is only one expression of a general rule governing the reaction of sensory and motor fibers to other anesthetics. Hitzig first demonstrated the disappearance of cerebral cortical sensibility long before the abolition of motor functions. "Even when every trace of reflex has disappeared and when the most intense sensory stimulation, such as pulling on the dura or strong induced currents applied to the mucous membranes of the nose produce reflexes no longer, certain cortical motor areas still respond to stimuli." Morphine, though administered intravenously, does not abolish cortical motor function, whereas it has a profound effect upon the cortical sensory area. Bernstein demonstrated the parallelism between the spinal cord and the cerebrum as regards the effect of chloroform and ether on the motor and sensory fibers. He blocked the circulation to the lower part of the cord and thus protected it from the chloroform circulating in the blood. The motor apparatus of the upper part, although exposed to chloroform, still responded to impulses coming from the lower part of the cord, while the sensory mechanism in the poisoned section remained completely insensitive. It appears therefore, that everywhere in the central nervous system the motor mechanism is particularly resistant to anesthetic action.

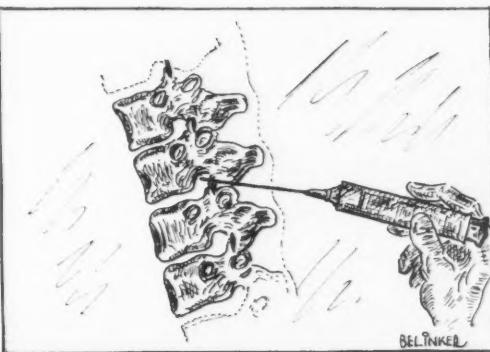
It is now not so difficult to understand how respiratory movements initiated by a purely automatic motor center may be maintained despite the existence of such a degree of poisoning by an anesthetic as has brought about an interruption of conductivity in sensory fibers. It is this property of selectivity (dependent upon inherent differences in nerve fiber, endings, and cells) which is so important a factor in the explanation of the phenomenon of surgical anesthesia of the entire body without respiratory paralysis. The concentration of the anesthetics of the cocaine series needed to have an effect on the motor mechanism is from six to ten times as great as that from which we get results on the sensory elements.

As far as the diffusion is concerned, it matters not how the position of the patient be changed. It is not only safe to allow and expect upward diffusion of an anesthetic agent introduced at the level of the second or third lumbar vertebra, since the diffusion is bound to diminish the concentration of the drug to a point far below any dangerous action, but also it is safe to apply this anesthetic solution directly to the medulla and upper cervical cord in a concentration much greater than could ever obtain by upward diffusion. This was conclusively proven by detailed experimentation on laboratory animals. That there is some effect on respiration seems likely inasmuch as the automaticity of the centers is to some extent controlled by afferent impulses transmitted through the vagi or from other sections of the brain. The temporary ablation of these impulses, however, can in no way seriously affect the organism. The center has sufficient inherent automaticity of its own, dependent upon and regulated by the metabolic activity of its constituent parts, controlled by the reception of physicochemical stimuli supplied by the blood.

Now, let us consider how the Koster School very aptly proves that the fall in blood pressure noted during spinal anesthesia is not a dangerous sign at all. They have kept careful records of blood pressure variations in several thousand cases and have arrived at the conclusion that it is impossible to predict in any case with any degree of accuracy what will happen to the pressure after the injection of the anesthetic solution. In some instances there is no appreciable change. Other patients show a maximum fall of about 10 millimeters of mercury. A fairly large number have a drop in pressure of between 20 and 30 millimeters within 10 minutes after the time of injection, this fall being sustained for approximately three quarters of an hour, the return to normal immediately preceding the return of sensation. In some instances the drop is from 50 to 75 millimeters within 10 minutes, and within another 10 minutes there is a return to about 20 millimeters below the normal. In at least 5% of all cases the pressure drops within 10 minutes to such a level that no radial pulse can be felt nor can the pressure be registered by the manometer. At first this manifestation was quite alarming and all types of stimulation were resorted to. Intravenous administration of adrenalin, caffeine, strychnine, etc. were all tried. The effect of these drugs, however, if any, is transitory. It was soon noticed that even without the use of drugs the pressure returns to a higher level within a very short period (approximately 10 minutes) if the Trendelenburg position is main-

tained. Should this state of affairs occur during an intra-abdominal operation, the operator can readily reassure himself regarding the condition of the patient by palpating the abdominal aorta in which slow, regular pulsations can be distinguished. However, should such an exploration not be possible, the uninitiated surgeon might easily become alarmed. In a large number of cases it has been found impossible to secure a blood pressure reading by means of the manometer. Surprisingly enough in such a case absolutely nothing has to be done. There is no need to throw the whole operating staff into a state of confusion by ordering stimulants, intravenous fluids and so forth, for soon the pressure will return and change in the general condition of the patient is noted. At the present time it would seem advisable to maintain the Trendelenburg position (for reasons mentioned below). I believe that it will be shown at some time in the near future that even this does not alter the favorable results. And so let us continue with Koster's physiological explanation of the fall in blood pressure:

The nerve control of the blood vessels is regulated by two antagonistic sets of fibers; one constrictor, and the other, dilator. The vasoconstrictor fibers leave the spinal cord by way of the anterior roots of the spinal nerves from the first dorsal to the third or fourth lumbar nerve inclusive, to go by way of the white rami communicantes to sympathetic ganglia. The major portion of the fibers forming the white rami from the lower seven dorsal and upper two or three lumbar roots take a separate course and are referred to as the lesser splanchnic. The greater splanchnic nerve supplies all the blood vessels of the abdominal viscera with constrictor fibers. Section of this nerve causes a tremendous fall in the general blood pressure because of the great dilatation of all the blood vessels in the abdominal cavity. The dilatation may be so extensive that the splanchnic vessels may contain all the blood



of the body. In spinal anesthesia, which is essentially a block anesthesia, there is an interruption of the impulses passing through the roots. Among other intercected impulses are those which supply vasoconstrictor stimuli to the vessels. Since this type of anesthesia affects some if not all of the lower dorsal roots, many splanchnic constrictor impulses are interrupted. The number of roots affected determines the amount of fall in blood pressure. If all the roots supplying the constrictor fibers to the abdominal blood vessels are involved, the fall in blood pressure resulting from the tremendous relaxation of these abdominal vessels may be so great that no manometric estimation can be made. When this occurs, there is no sign whatsoever of cardiac failure. Although the contractions of the heart are forceful, their output rapidly decreases, the zero point being approached in time due to a diminution of the quantity of venous blood brought to the right ventricle. The principle factor maintaining venous flow is the *vis a tergo* produced by the ventricular contraction on a closed system of vessels possessing elastic walls in which a definite degree of tonicity must be maintained by constrictor impulses. With a marked dilatation of the blood vessels within the abdominal cavity and the consequent tremendous fall in blood pressure the venous return flow to the heart becomes so inadequate that not enough blood can be pumped out to the brain. The latter, however, must always secure a normal amount of blood. Failure to supply the blood to the brain in sufficient quantity results in a bulbar and cerebral anemia which is responsible for death in spinal anesthesia. The fault is not due to failure of the myocardium. Nor is the fatality occasioned by primary respiratory paralysis. When respiratory paralysis ensues, it is consequent to the cerebral anemia resulting from failure of the veins to supply sufficient blood to the cardiac chambers to allow the active heart to pump enough to the brain. The condition is comparable to that of an internal hemorrhage, the bleeding being into the relaxed vessels of the abdominal cavity in which the venous pressure is nil and from which no blood is being returned to the heart. Such a state of affairs can be counteracted in only one way and that is by the utilization of the Trendelenburg position. This insures sufficient gravity drainage from the veins to the heart whence enough blood is quickly relayed to the brain by the body's active and competent pump. Thus is a fatal cerebral anemia forestalled. Koster's experience in many cases in which there was no recordable brachial artery pressure for a consider-

able period of time has convinced him that with the patient in Trendelenburg position there is no danger from spinal anesthesia, irrespective of the amount of blood pressure fall. As I have mentioned above, I believe that with further experience it will be proven that the body can adjust itself even without the use of the Trendelenburg position. It is for this reason, also, that Koster and his co-workers feel, despite the citations to the contrary with which the literature on spinal anesthesia is replete, that hypotension is in no sense a contra-indication to the use of this form of anesthesia. He has operated upon many patients with ruptured tubal pregnancies in whom, in spite of treatment for shock and hemorrhage, the pressure did not rise above 55 millimeters of mercury, with perfect equanimity regarding the effect of the anesthetic and he has had no reason to change his mind.

Regarding the marked variations in pressure-fall following the application of the anesthetic to the spinal nerve roots, it might be mentioned in explanation that separating the motor from the sensory roots in the spinal canal is the ligamentum denticulatum, an irregular cribriform membrane. This separates the canal into an anterior and posterior compartment. When the anesthetic solution is introduced into the subarachnoid space, it usually enters the posterior compartment. Diffusion into the anterior compartment, in which lie the anterior roots containing the vaso-motor constrictor fibers, is dependent to a certain extent upon the number and an arrangement of the perforations in the separating ligament. Only near the site of puncture is the anterior diffusion great enough to affect thoroughly the anterior roots and their containing vasomotor fibers. When the needle penetrates the ligamentum subflavum and enters the posterior compartment of the subarachnoid space, if it is pushed farther, it separates the nerve bundles forming the cauda equina and may enter the anterior compartment. Should this occur, if the anesthetic fluid is now injected, more anterior roots will be affected and more vaso-constrictor impulses will be blocked so that the pressure-fall will be far greater. It becomes evident, then, that the partial control of the blood pressure fall depends upon injecting the anesthetic fluid into the posterior compartment of the subarachnoid space.

As to vasomotor stimulants, Koster believes them of little aid. Those drugs, the action of which depends

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HOW BRITAIN SOLVES HER HOSPITAL PROBLEM

ANTHONY S. SAMORAJSKI

It is not hard to imagine what the result of several squadrons of enemy bombers would be to any large city. To cities located in war zones this was a common occurrence and London, Coventry, and Birmingham have had this enacted many times. Each wave of Nazi bombers left its casualties, many of which needed hospitalization. The role of hospitals in the present war has been most important, particularly in view of the many civilian casualties. A review of the British hospital situation will serve to enumerate a few of the changes and subsequent corrective measures which became necessary since the onset of the war.

Britain entered the present war with over three thousand hospitals, but with no hospital system. There was only a loose association of the thousand and more voluntary hospitals. They were independent, self-governing institutions, while the public hospitals were administered by hundreds of local authorities under the remote supervision of the Ministry of Health, and the Department of Health for Scotland.

While probably adequate for civilian needs in time of peace, such a system of independent hospital units could not cope with the numerous problems which arose with the present war, viz:

1. The strain of repeated Nazi bombings.
2. The fact that hospital services had to be largely removed from towns into country areas where patients could be treated without constant fear of bombs.
3. That the government rightfully decided that cases of injury or illness attributable to or connected with war operations must be a charge on national funds.

The British government was compelled, therefore, to set up a unified hospital system. This took the form of the "Emergency Hospital Scheme." The primary purpose of this plan was the effective treatment of air raid victims. With this view in mind, the government provided for 225,000 casualty beds throughout England and Wales, staffed by over 1,700 full time doctors, with over 5000 others on call for work when needed. Since Britain's total public and private hospitals contained at most 567,000 beds, and since a great proportion of these was in target areas, it was necessary to convert into hospitals, institutions normally used for other purposes, and in many cases by building new hospitals or improving existing hospitals

directly through government aid. The scope of this undertaking can be realized when one considers that the total cost to the government during 1940-1941 was over 15,000,000 pounds Sterling.

Although the Emergency Hospital Scheme is administered centrally by the Emergency Medical Service Division of the Ministry of Health, it allows for a certain amount of flexibility in that hospitals remain under peace time administrators.

The type of work they do, however, is controlled by the Emergency Medical Service and the cost of performing this work is paid in full to the Voluntary Hospitals, and to the extent of sixty percent to the municipal hospitals, by the Ministry. Hospitals in central areas provide emergency treatment to air raid



casualties. These patients are removed to base hospitals outside the towns as soon as possible. Such surgical cases as do not need immediate treatment are sent to hospitals on the fringes of target areas. All hospitals included in the "Scheme" in a given area are organized into an "affiliation group" which is controlled by a group officer (usually an eminent medical man) in the Ministry's service. He is responsible for the allocation of teams of doctors to specific hospitals, organization of the flow of patients, pooling of personnel and resources as the need arises.

Some idea of how this system works may be obtained by investigation of the situation in London. London is divided into nine sectors, each with one or more teaching hospitals at its apex and stretching out to the base hospitals up to fifty miles away. There

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FOUNDATIONS FOR THE VISCERO-SOMATIC SYMPTOMATOLOGY IN THE NEUROSES

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"A pox here on that ecclesiastical inheritance, the dualistic vocabulary!" To such invective Foster Kennedy is aroused because "it has been the fashion for the last twenty-five years to discuss mental illness as though the mind were like Machomet's coffin, swung, unsupported in the empyrean between heaven and earth, without pathology or structure." Such rhetorical vehemence springs not from the convictions of metaphysical speculation, but from the evaluation of scientific data which demonstrates the ultimate physiologic unity of the "psychic" and "organic" components of behavior.

There exists in clinical medicine a multiplicity of syndromes, e.g., *globus hystericus*, *neurocirculatory asthenia*, certain types of *dysmenorrhoea*, etc., whose genuses are concealed under the impressive but meaningless explanation of "functional" disorders. This group of "functional" disorders are prevalent as manifestations of the neurotic, emotionally unstable individual. That the cortical disturbances arising from the social, economic, and biological problems and conflicts of the individual can create emotional and subsequent somatic disturbances had been apparent even before Cannon finally demonstrated that the bodily changes directed toward homeostasis could be induced by emotions. The disparity lay in understanding the physiologic and anatomic mechanism by which higher cerebral centers engaged in voluntary and intellectual activities could influence involuntary, visceral, and metabolic functions.

It is fundamental to understand that the somatic effects of emotional disturbances are mediated through the peripheral autonomic nerves and that the neurotic *symptomatology* is a result of an aberration of autonomic function in which one or the other of its divisions is overactive. Thus Misch has demonstrated that the symptoms of an acute major anxiety neurosis with its vasoconstriction of the skin, tachycardia, cold sweat, mydriasis, arterial hypertension, and inhibition of salivation could be removed by injection of acetylcholine. These symptoms can be induced by sympathomimetic substances as adrenalin or ephedrine. Likewise the mucosal changes seen in mucous colitis have been produced by the application of parasympathomimetic drugs. This condition is seen in conjunction with cardiovascular instability, flushing of skin, cold sweats,

moist hands, nausea, belching, and sour eructations as expressions of a labile autonomic system in people under emotional stress.

There are multiple levels of origin for the autonomic impulses which pass through the peripheral plexuses. The most distal of the levels are located in the cord and in anatomic relation to the intermediolateral cell columns. In the brain stem other centers are found in the nuclei of the cranial nerves which regulate respiration, salivation, blood pressure, gastrointestinal motility, etc. Although these functions persist following decortication and although these activities are carried on at an unconscious level, it has been demonstrated that these nuclei can be relay stations transmitting impulses from higher centers. An ipsilateral secondary vagal tract has been shown to reach the supraoptic nuclei of the hypothalamus from the tractus solitarius, and stimulation of this tract shows increased blood pressure, an anti-diuretic action, and other autonomic expressions which are abolished by section of the tract. Similarly the periventricular and paraventricular hypothalamic nuclei contribute to the dorsal longitudinal fasciculus to terminate about the viscero-motor cranial nuclei. Ascending in the neuroanatomic level, the next significant focus is located in the "center" for autonomic impulses. Bard's experiments with decerebrate animals indicate the marked sympathetic and emotional hyperactivity resulting from hypothalamic release which he designated as "sham rage." These reactions could be elicited by suggestive, noxious, fear producing stimuli, like noise. If sections were made rostrally until the posterior hypothalamic nuclei were excluded, these reactions ceased. Clinical material has shown a similar group of symptoms. A teratoma of the third ventricle destroying the hypothalamic nuclei was described in a patient who exhibited extreme irascibility, combativeness, delusions, impaired judgment, diabetes insipidus, and the usual sympathetic signs.

It is now felt that the posterior hypothalamus contains predominantly sympathetic representation and the anterior and middle nuclei predominantly parasympathetic functions. Corresponding with this, lesions of the anterior hypothalamus tend to produce excited states, while posterior lesions are expressed by lethargy, depression, and catatonic states.

Alvarez suggests that emotional storms that come on suddenly in a patient with other evidence of cerebral vascular damage may be due to thromboses of hypothalamic vessels.

Effects of stimulation and ablation of the various hypothalamic nuclei have clarified their functions. These nuclei have been divided into anterior, middle, and posterior groups. In the anterior group, the supraoptic nuclei have received attention because of their connections with the pars intermedia and pars posterior of the pituitary through the supraoptico-hypophyseal tract. Lesions of this nucleus or tract are responsible for the syndrome of diabetes insipidus. In the same group the paraventricular nuclei, if damaged, cause an increased sensitivity to insulin and hypoglycemia. These nuclei are frequently atrophied in diabetes mellitus.

The middle group of nuclei are functionally and anatomically divided. Stimulation of the ventromedial nuclei causes glycosuria and hyperglycemia, while their destruction abolishes this effect and in such cases pancreatectomy fails to produce diabetes. These effects are independent of the adrenal medulla although secretion of adrenalin and sympathin have been produced by hypothalamic stimulation.

The tuber nuclei are responsible for the parasympathetic visceral effects of the hypothalamus. Stimuli to this area cause slowing of the heart with prolongation of the A-V conduction time, increased intragastric pressure, more active peristalsis, and increased bladder tonus. All these actions can be abolished by atropine or section of the vagus and parasympathetic nerves. Lesions of the tuber nuclei have produced multiple hemorrhagic erosions of the stomach mucosa and may explain the perforations of the stomach after surgery near the hypothalamus and Rokitansky's observation of such perforation following basal meningitis.

The syndrome of adiposogenital dystrophy with its concomitant genital atrophy is attributed to tuber lesions. Such cases show no abnormality of thyroid or the suprarenal cortex and are refractory to pituitary hormone therapy. The sexual dystrophy may be due to withdrawal of innervation from the anterior pituitary which it receives via the pituitary stalk and cervical sympathetic vasomotor fibers. Failure to come into heat and loss of mating behavior in spite of normal cyclic changes in the genitalia occurred in guinea pigs with lesions of the anterior hypothalamus. Sterility, abortions, and eclamptic convulsions were observed following hypothalamic lesions and the use of estro-

gens or pituitary hormones caused no improvement. The relationship of this area of the diencephalon to sex function is suggested by such data.

The lateral group of nuclei function with the posterior group to evoke a diffuse sympathetic discharge. Stimuli here produce piloerection, tachycardia, dilated pupils, inhibition of gastro intestinal motility with fall of intragastric pressure, rise in blood pressure, and increased respiratory rate. (Anterior hypothalamic stimuli cause increased amplitude of respiration). These effects are transmitted through efferent projections to the medulla and cord.

By integration of its various functions the hypothalamus becomes the heat regulating center of the body. The anterior and medial nuclei, by induction of sweating vasodilation and panting, are responsible for heat loss and their destruction causes hyperthermia. The posterior nuclei control heat production and conservation by mobilization of carbohydrate reserve, vasoconstriction, piloerection, increased heart rate, elevated metabolism, and shivering. The integrity of the medial thalamus is essential for the last mechanism.

The mammillary bodies are one of the loci for sleep production and stimulation to this area cause prompt "normal" sleep. Destruction of this area is responsible for catalepsy.

The influence of higher centers upon the hypothalamus was apparent from Bard's results following decortication of cats and dogs. The anatomic and physiologic basis for these results is not yet settled. Some fiber connections, however, have been proven.

The prefrontal association areas responsible for many intellectual psychic functions and apparently associated with the recall of recent events, send projections to the dorsal-medial nucleus of the thalamus, which in turn influence the posterior hypothalamus by a periventricular system of fiber projections. Frontal connections with the hypothalamus also exist through the zona incerta of the subthalamus. The tuber nuclei also receive fibers directly from the frontal cortex and send impulses to the midbrain. Direct cortico-hypothalamic tracts arise from the allocortex. The mammillary bodies connect with the anterior nucleus of the thalamus and thence with the cingulate gyrus, while receiving projections from the hippocampus through the fornix. Since the exact function of the rhinencephalon is unknown it can only be presumed that its influence on the hypothalamus is one of non-specific activation by olfactory stimuli.

Although thalamic and striate lesions have pro-

duced sympathetic disturbances, the modus operandi is obscure.

The highest level of autonomic function is located in the cerebral cortex and the centers are intermingled with the somatic motor regions of the precentral gyrus (areas 4 & 6). Thus points have been located which raise or lower blood pressure, increase or decrease heart rate, cause peripheral vasoconstriction, increase blood supply to the muscles, provoke sweating, and by these mechanisms influence body temperature. Also points stimulated in the frontal eye fields (posterior part of second frontal convolution, area 8) cause dilation or constriction of the pupils. The cortex has also been shown to contain foci for excitation and inhibition of the pylorus and stomach walls, and frontal lobe lesions cause disturbances of motility and secretion of the gastro-intestinal tract. Lacrimation and salivation have been produced by stimulation near area 8. The area for bladder control seems to be located in the motor cortex. These cortical effects can be produced through the hypothalamus or independently of it through the corticospinal and extrapyramidal paths.

The points evoking these autonomic expressions are the only ones capable of producing such results by electrical stimulation. But they take a modified significance when it is demonstrated that they are influenced by other areas which themselves do not arouse such reactions to electrical stimuli. Thus the "psychic" flow of gastric juice stimulated by a conditioned reflex may depend upon the integrity of the temporal lobe, calcarine cortex, or prefrontal area. Pavlov was able to induce experimental neuroses in chimpanzees by presenting problems too difficult to solve. The animals showed temper tantrums, defecated and urinated in the cage, and showed signs of diffuse sympathetic discharge when errors were made. After removal of both prefrontal areas the animals failed to show their usual excitement and exhibited no emotional outbursts at repeated mistakes.

The surgical application of this data has been reported in treating major psychoses in man by severing the projections from the frontal area before they reach the internal capsule. Fulton believes that with the cerebral cortex intact more varied forms of emotional expression are seen and may be evoked by distance receptors, like the eyes and ears, and that such a variety of reactions is not feasible with the cortex removed.

The neurotic manifestations may be exhibited in almost all the visceral systems. The gastro-intestinal

symptomatology, the spastic colons, mucous colitis, anorexia nervosa, pylorospasm and sour eructations, hyperchlorhydria, and even the peptic ulcers of the neurotic patient, are expressions of cortical influence acting through the different levels of the autonomic system. Esophagoscopy has demonstrated spasm of the whole esophagus during disagreeable emotions and this may be responsible for some of the strictures, cardiospasm, and pressure diverticula.

The respiratory disturbances of the neuroses are expressed as distortions of the rate and rhythm of respirations and have taken the form of full asthmatic attacks precipitated by psychopathogenic circumstances. An attack of hay fever may be precipitated by psychopathogenic circumstances. An attack of hay fever induced by sudden exposure to an artificial paper rose has been mentioned to demonstrate the cortical influences on the allergy syndromes. It is to be recalled that the allergic reactions are treated by sympathomimetic substances and frequently are relieved by cortical sedation. Recent reports speak of the treatment of emotionally induced asthmatic attacks with dilantin.

The cardiovascular neurotic complaints consist of palpitations, vertigo, anginal pains, flushing of the face, and such patients exhibit fluctuations of blood pressure. All this is understandable in view of the close physiologic and anatomic relationship of the cortical "psychic" and the autonomic centers.

The cold pallor, the hyperhidrosis and piloerection mark the neurotic. These plus the presence of the psychogalvanic reflex are indicative of cortical influence upon the skin. The abolition of the psychogalvanic reflex by cortical ablation tends to confirm this view.

That metabolic dysfunction can be induced or aggravated by the centers usually responsible for voluntary activity is real but not apparent. Thus it is known that emotional upsets may precipitate or aggravate a mild diabetes. The influence through the hypothalamus is probably the responsible agent. Biochemical investigation indicates a greater variability in the blood concentration of sugar, non-protein nitrogen, cholesterol, calcium, creatinine, and inorganic phosphorus in neurotic patients. These changes are attributed to factors incidental to the production of homeostasis in such patients.

The diffuse varied viscero-somatic symptomatology found in psychotic and psychoneurotic patients is an

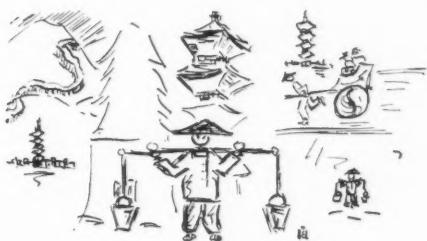
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FURTHER NOTES FROM AN AMERICAN MEDICAL STUDENT IN THE ORIENT

(Editor's Note: This is the last article in the series of "Notes" from the letters of Joseph Maltzer, an American medical student in Hong Kong. The notes published in this article are from the last letters which reached the United States after the Japanese attack on Hong Kong. At this writing, the status and whereabouts of Mr. Maltzer are still unknown.)

Hong Kong, March 23, 1941

. . . This afternoon climaxed a long series of petty events and I have resolved that I must leave the hostel and find myself a place which is more compatible with decent living . . . I ordered a meat dish. The meat just stank to the high heavens . . . Under the system as it is here the cook is really a caterer. He has to make a profit, and if prices are high, rotten



meats may be the only way to do it . . . When you consider that vegetables and even fish are unsafe due to the cholera epidemic that has recently broken out, there is very little but bread and milk that one can eat.

Hong Kong, March 26, 1941

. . . The term ends May 23 . . . I've been studying quite a bit. I very rarely take off more than one night a week, when I go to the movies with one or two of the Russian fellows. Please note that I label their nationality for the simple reason that their way of thinking, their values, their expressions are so different from American or English that it is hard to feel any kinship. Recently another Russian came to this University. He is the only one who seems to have coordinated some of his ideas into critical evaluation . . . He isn't well liked by most of the other Russians. His views are Communistic, and since most of the Russians are here because of mistreatment by the Communists, you can't blame them . . . Frankly, I have met a number of unpatriotic upper class Chinese

in Hong Kong. This breed follows the regrettable custom of filling their own pockets first.

(Ed. note: See the Leland Stowe articles on corruption along the Burma Road published in January in the Chicago Daily News and other papers) . . . it certainly goes against the grain. I find that my own feelings sometimes are nothing more than utter contempt . . . when one considers that China's life is at stake and her armies in the field fight so courageously . . .

Hong Kong, March 27, 1941

. . . As I write now I can hear the practice of anti-aircraft guns coming from about one mile away. I'm not even turning a hair as long as it is just practice.

Hong Kong, March 29, 1941

. . . I just got into a discussion with some Indian students at Lugard Hall. The British should pay me as an agent. We started with the premise that the British are two-faced, double-crossing so-and-so's, but before the discussion closed, I had brought them around to the opinion that under the circumstances it would be better to give the British support in exchange for a promise which probably would be honored than to chance a change in masters from British to Nazi . . . "It is better to suffer the ills of this world than the uncertainties of the next . . ." I figure the U. S. is already in this war, and these fellows, by writing home, may help, too. This conversation was the most interesting I have had for a long, long time, and I have learned quite a good deal . . .

Hong Kong, May 24, 1941

. . . Exams are over, successfully for me and twenty seven others of a class of over sixty, and I start my clinics on June 1st . . .

Yesterday I went swimming at Stanley Beach. The beach is littered with barbed wire. It does not compare with any of our better beaches, but the joy of just rolling in the water and the feeling that time means nothing was enough to relax the tension of the months of study. Toward the evening as the sun began to set, I looked up at the steep rising hills . . . the tops hidden by low clouds . . . and I felt a gnawing nostalgia for familiar things. For a moment everything was beautiful. Only a little later I realized once again that I was an exile . . .

Hong Kong, June 2, 1941

. . . My first day in the hospital as a ward clerk

was quite a disappointment. In the morning from 8:30 to 9:30 there was a short review of the operations to be performed that morning. When the prof came they started to operate. The first case was a carcinoma of the maxilla requiring the left maxilla to be removed. They started by ligating the external carotid artery. The prof was so slow that when he finally tied the artery, I was too tired to remain any longer in the O. T. The place was mobbed—about fourteen juniors, or ward clerks, four seniors, or dressers, about six anaesthetic clerks, a couple of nurses, the prof, and his two assistants. It was hot and stuffy. Besides, taking half an hour to ligate the carotid artery was too much even for me. I went out into the students' room, stretched out on a hard bench and was asleep in no time. Someone woke me half an hour later. The student room was now packed. About an hour and a half later I went back to the O. T. and watched the end of the operation in a comparatively empty theater.

Later, the senior, or surgical dresser, took us around the wards, showed us some minor points . . . He has an entire ward to dress and seven ward clerks to order around.

Today we did dressings, and in the afternoon went to the out-patient department. Cases discussed—ankylosis of the knee joint, tuberculous cervical lymph glands, and hydrocephalus . . .

Hong Kong, June 10, 1941

. . . The new subjects I have studied since coming to Hong Kong are clinical physiology, one which was not so new, pharmacology (which I always managed to cut for the simple reason I could not understand the lecturer, who is Chinese), and, of course, the clinics. I studied like the devil for about six weeks before the exam in May. I studied all night when it was a bit cooler and slept by day practically in a bath of my own sweat . . .

At present I have to attend surgery clinics and operations and the out-patient department seven days a week. It is fortunate that the Queen Mary Hospital is air-conditioned; otherwise living here would be unbearable. I romp around my room in my shorts—that is, when I am not sleeping—in general, doing as little as possible . . .

Hong Kong, August 30, 1941

. . . Received word from the boys in Scotland. It seems that those boys from Brooklyn who are Dodger fans have no trouble missing the bombs . . .

Hong Kong, September 1, 1941

. . . Started my medical clinic today—mitral stenosis, peptic ulcer of twenty two years standing . . .

Hong Kong, September 4, 1941

. . . Saw two acute abdomens, one appendicitis, one perforated duodenal ulcer, and ten or eleven beri-beri cases in out-patient today. Oh yes! one case of malaria, too . . .

Hong Kong, September 15, 1941

. . . Typhoon signal up today.

Hong Kong, September 16, 1941

. . . Typhoon today. All busses stopped. Can't leave the house. Very nice day to sleep . . .

Hong Kong, November 5, 1941

. . . Saw two cases of tabes today. Lots of clinical material because of the large poor population . . . For the past few weeks I have felt an uneasiness among the better class whites in Hong Kong. Everything seems to go on as usual; yet there is a difference in the atmosphere . . .

Hong Kong, December 7, 1941

. . . So the Japs finally went and did it! There's no use in feeling bitter about it, but I certainly cannot feel too happy about our being in the war. There was no question in my mind that our entrance into the war was inevitable, and I'm glad it was their first move, not ours. That makes our vengeance righteous, and the blood shed, theirs and ours, will be on their heads . . .

Hong Kong, December 13, 1941

(Hong Kong Falls. Ed. Note.)

WESTERN UNION—Via RCA Cablegram,
Mrs. Lillian Maltzer,
New York, N. Y., U. S. A.
UNSCATHED,
JOE.

LOVE'S DREAM

*Last night I held a tender hand,
So little and so sweet.
I thought my heart would surely burst
So wildly did it beat.
I never held a hand so tight,
Such gladness it did bring,
Such as the hand I held last night,
Four aces and a king.*

HEALTH IN WAR-TORN BRITAIN

STUART RABEAU

War! "Cities flaming, millions homeless and starving, plagues like ravaging forest fires sweeping over continents, devouring thousands in their wake"—. No, this is not lifted from "Absurd Stories," rather it was the consensus of international experts ranging from H. G. Wells to Major Podunk, military analyst for one of our leading newspapers. They predicted as a result of large-scale air raids, a rapid breakdown of the complex framework of modern civilization, panics, epidemics and suffering quite disproportionate to the actual physical injury.

But what has happened? A perfect example has been offered in the case of Britain which has undergone the tremendous battering of the Nazi air armada for a period extending almost three years. The result is well known—no panics, no plagues, no millions shelterless or starving; in short—no breakdown!

Ah, but comes question two—how was this all accomplished? In reply, we present a terse bulletin issued by the British Library of Information, which first discusses the "hospital bed situation", then in turn, evacuation of civilians, and the shelter situation.

Long before war became imminent, detailed plans had been evolved for the hospital treatment of large numbers of air raid casualties. An obvious essential was the removal of the patients as soon as possible from the "Front Line" to the comparative safety of the country. Hospitals in the safer areas were affiliated to those in more vulnerable districts, which are used mainly for the reception of casualties. As soon as possible, all cases are transferred to the outlying hospitals. Over 1,900 hospitals are included in the scheme, and in the first week of war well over 100,000 beds were cleared; from London alone 3,000 stretcher cases were removed by Casualty Evacuation Trains. At the present time, there are 60,000 beds available to which air raid casualties from London can be transported. Huttied hospital accommodation for 34,000 beds has been completed and a scheme for a further 10,000 beds is well under way.

Equally important is the transfer of "non-combatant" population from the congested and vulnerable areas. Though Germany bombs indiscriminately, there is greater safety and considerably less noise and nerve-strain in the country. The Government Evacuation Schemes enables mothers, children and aged persons

to find homes "for the duration" in the safer districts. In all, over $2\frac{1}{4}$ million persons have come within the purview of the scheme, and at present $1\frac{1}{4}$ million are billeted. There are 325 residential nurseries for "under fives" (some of them provided by American generosity) with a capacity of over 7,000 children; 100 emergency maternity homes with a total accommodation of over 3,500 beds; 60 hostels for aged persons; 1,550 hostels for family groups; and 27,000 requisitioned houses in which evacuees live on their own. To help the town mothers and children to settle down quickly in their changed surroundings, there have been established 419 nurseries and play centres, 743 social centres, and 701 occupational clubs. And the personal help and advice of the Billeting Officer is always available.



On September 7th, 1940, German bombers began a determined assault on London. And London—scarred but unshaken—found that the arrangement made during the long months of quiet stood up to the test of war. Plans rehearsed a hundred times in dummy "Raids" were carried out amid the dust of fallen buildings and the glare of burning Dockland. Similar arrangements in provincial cities worked equally well, as they, in turn, suffered under the shifting blitz.

Under such conditions, rescue squads, ambulances, and hospitals tended a constant stream of casualties. Civilian sufferers were rushed to medical aid. The same system operates throughout the country, in the richest and poorest districts alike. Private doctors and

nursing homes are organised alongside the public services, and their aid is available without distinction to all. During the period from September to December 1940 Britain's hospital medical and rescue services dealt with a casualty list of 21,885 persons killed and 30,585 injured and detained in hospital.

As had been expected, the "blitz" did not spare the sick and injured. Hospitals were bombed in raid after raid—some of them several times. Under such conditions, their staffs earned the tribute of Her Majesty the Queen—"those wonderful women, whose devotion, whose heroism, will never be forgotten. In the black horror of a bombed hospital, they never falter and though often wounded think always of their patients and never of themselves". Had it not been for the pre-arranged system of Casualty Evacuation, injuries among both patients and nurses would have been infinitely greater.

After the casualties, the homeless. No blitzed family is left to wander the streets in search of shelter. The nearest policeman or Air Raid Warden (of whom there is one in nearly every street, usually an unpaid voluntary worker) will direct them to a Rest Centre, where they can change, rest and recover from the first shock. At a nearby Information Centre, representatives of the different Government Departments and voluntary organizations await them with advice and practical help. Should the damage to their home be only temporary, "flying squads" of repairers replace windows and roofs and make good other superficial damage; or if the house is beyond repair, the local authority salvages as much of the furniture as possible and provides alternative accommodation—unoccupied houses, even luxury flats, being brought into use. All these services are organised on a big scale. For instance, there are nearly 13,000 Rest Centres, with accommodation for over a million. 90% of the houses damaged in air raids have been made habitable again—often on the first day after the raid, and at "peak" periods at a rate as high as 70,000 houses a week. By July, 1941, over 155,000 articles of standardised furniture for the homeless had been ordered by the Ministry of Health, as well as large quantities of domestic equipment. Every town over 50,000 population has a Citizens' Advice Bureau—over 1,000 Bur-eaux and their 7,000 voluntary workers answer questions about air raid damage and all other wartime problems at the rate of a million a year.

With the blitz, began a rush to shelter. Here again, pre-war Government policy had already provided 2½ million families with free "Anderson" shelters, proof

against blast and splinters, and even near-hits. Such families had their protection, literally, in their own backyards. Others sought the refuge of public shelters; tubes and basements were made available and rapid improvements were made as circumstances demanded.

Today a large shelter is a self-governing community of its own, with a voluntary Shelters Committee, refreshments, beds, sanitary accommodation, air-conditioning and medical facilities. Professor Gordon of Harvard and a team of epidemiologists are making still further research into the health of shelters. The Ministry of Health has power to send to the country any child whose health is being affected by shelter life. In these and many other ways, disease is kept at bay under what might at first sight seem unpromising conditions.

Shelters have been provided with many amenities. In a London subway shelter, the Medical post has its own consulting space, water supply sterilisation and other equipment; in conjunction with it, Red Cross Nurses make a regular inspection of the health of child shelterers. Minor ailments are treated on the spot; serious cases are removed for treatment. Food, too, is available to the shelterers at each station; special trains deliver over 7 tons of refreshments a night throughout the system.

Let's take another glance at those statistics. It says, ". . . in first week of war well over 100,000 beds were cleared." Imagine a hospital the size of the County being emptied and refilled more than 20 times in one week and you can begin to realize the amplitude of the task that is so simply stated in a few words. Try to comprehend the moving of the population of a town the size of Milwaukee and Detroit combined, to entirely new homes and you may realize what has been performed. But these precautions are but a few that have been instituted in Britain. To prevent the twin scourges of starvation and malnutrition from following in the wake of Nazi blitzes, emergency canteens have been set up in strategic places in case normal food distribution suffers a temporary breakdown.

The Battle of the Atlantic, the bombing of roads and railways, have given rise to new problems in food supply and distribution. Rationing of essential food-stuffs was introduced, not because of shortage, but to prevent shortage by ensuring even distribution to all. Families of all incomes are guaranteed a balanced, adequate diet. The value of the food consumed in

(Continued on page 37)

MEN IN SERVICE



DR. M. A. JACOBSON, *Lieut. Comm., U. S. N. M. C.*

We are proud to announce that three students of the Chicago Medical School have volunteered and are now in the service of the United States Army Air Corps. They are:

Joseph G. Berkely, Jr. Class of 1944

Marshall Persky Class of 1944

Omer Philip Gabelman Class of 1945

Among the Faculty, the following are already in service:

Dr. John E. Stoll, Assistant Professor of Obstetrics, now Major, U. S. A. M. C.

Dr. Abraham Ettleson, Assistant Professor of Neurology, now Lieutenant-Commander, U. S. N. M. C.

Dr. M. A. Jacobson, Assistant Professor of Bacteriology and Preventive Medicine, now Lieutenant-Commander, U. S. N. M. C.

Among the Alumni, the following are already in service:

Dr. C. S. Sachtleben, '18, 1st Lieut., M. C., U. S. A.

Dr. M. M. Mandel, '37, 1st Lieut., M. C., U. S. Army Air Corps.

Dr. G. S. Schwerin, '40, 1st Lieut., M. C., U. S. A.

Further appointments will be announced in our next issue.

THE QUARTERLY

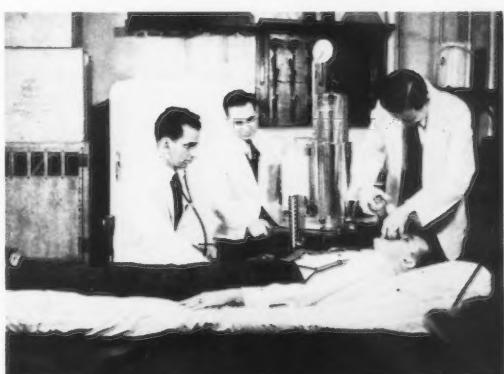


DR. M. M. MANDEL, '37,
1st Lieut., M. C., U. S. Army Air Corps.

IN TECHNICOLOR

We are proud to announce the passing of another milestone of progress. A Technicolor motion picture of life within the walls of the Chicago Medical School has just been completed. Replete with scenes in classroom and clinic, laboratory and library, it fills a long felt need in acquainting many of those who are interested in us, with our work. A sound track with descriptive dialogue is soon to be added.

Below the reader will find a scene from the film.



THE BLOOD DONOR SERVICE

HERMAN L. WEISBERG

As in the last Great War, the contingencies of the present war have brought into existence many new agencies for control and increase of war production, for control of prices and labor, and many new social agencies for the aid and comfort of those engaged directly or indirectly in the war effort. Many of the already existing humanitarian agencies which function normally during peacetime have expanded their activities to cope with the additional demands of wartime needs, which far overshadow peacetime requirements. The foremost among the last named agencies is the American Red Cross, whose accomplishments in the past have established it as the greatest of all humanitarian movements.

With the advent of war in Europe, the American Red Cross bent its efforts to alleviate the sufferings of the populations of the democratic nations engaged in the war against the fascist aggressors. America's entrance into the war has placed the American Red Cross on a full wartime basis, with its concomitant augmentation of all peacetime activities and the organization of new activities brought into existence by the war. The advance of the medical science has opened a new field of endeavor to the Red Cross, that of collecting blood for the use of the armed forces of the United States; and that organization has responded with its usual efficient enthusiasm by establishing the Blood Donor Service of the American Red Cross.

When the war broke out in Europe, the New York chapter of the American Red Cross independently set up facilities for collecting blood for Great Britain till the British were able to set up and maintain their own blood donor service. Soon after the practicability of the blood donor service plan was well established, the Surgeons General of the Army and of the Navy requested that the American Red Cross, in collaboration with the National Research Council, set up facilities for the collection of 15,000 pints of blood for the armed forces. Thus, in February, 1941 the first blood procurement center was established in New York City.

With the tremendous expansion of the armed forces of the United States came the cry for more blood,

and, as usual, the Red Cross responded promptly, so that only a few months after the establishment of the first bleeding center, blood for some 300,000 additional units was collected. (The unit consists of a compact package made up of two sterile bottles, one containing sterile, processed, dried plasma, the other containing 300 cc. of sterile saline, two sterile needles, and sterile tubing. Each unit is the equivalent of one pint of blood). The Blood Donor Service found that it was easily able to take care of the demands of the armed forces and was gradually increasing its collection and supply of blood.

However, the attack on Pearl Harbor by the Japanese put the Red Cross, as well as all other agencies, on full wartime footing, and the demands for more blood continue to arise, so that at this writing more than one million units have already been requested by the armed forces.

The Red Cross Donor Service, like its mother organization, is a national organization with headquarters in Washington, D. C. The National Director of the service is Dr. C. Robinson, and the National Technical Advisor is Dr. Earl S. Taylor. These men have under them hundreds of workers who make it possible for the service to function efficiently.

The United States is divided into three areas, the Eastern area, the Midwestern area, and the Pacific area. In all the three areas combined, there are at present a total of eighteen blood procurement centers at which blood is taken for the Red Cross. The Midwestern area, for example, has four bleeding centers, one at Chicago, one at St. Louis, one at Milwaukee, and one at Detroit, each center with complete facilities for bleeding donors and transporting the blood to the laboratory for processing and packaging. The technique of procedure and the organization of all the centers in this country is standardized by the National Headquarters so that all centers operate in the same way.

A typical large blood procurement center, for example, is the one in Chicago. The Blood Donor Service of the Chicago Red Cross Chapter is under the supervision of its Director, Mr. Arno Holm, who





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A typical large blood procurement center, for example, is the one in Chicago. The Blood Donor Service of the Chicago Red Cross Chapter is under the supervision of its Director, Mr. Arno Holm, who





has as his technical advisor Dr. Sidney O. Levinson, a prominent Chicago physician. Mr. Joseph H. King, the vice chairman of the Chicago Chapter of the American Red Cross also acts as chairman of the Blood Donor Service, and these men make up the administrative board of the Chicago Red Cross Blood Donor Service. The technical staff of the service consists of two physicians who are the only ones authorized to draw blood from the donors, and a corps of eight registered Red Cross nurses. In addition to the trained professional staff, the force is bolstered by about fifteen volunteers from the various services of the Red Cross. The volunteers include the "gray ladies", staff assistants, canteen workers, nurses' aides, and the members of the Motor Corps. The volunteers perform various duties, such as acting as receptionists, clerks, tending the canteen, assisting the nurses, and transporting the blood from the bleeding center to the laboratory.

During the average eight hour day many appointments for blood donors are made, many of these some days in advance, for the Blood Donor Service calendar is usually quite full. However, the service is quite well able to handle all the work that comes in, for, although the average day finds about 200 pints of blood ready to be shipped to the laboratory in the evening, the center has the capacity for drawing more than 250 pints per day. If necessary, even this figure could be exceeded without placing any undue strain on the staff and facilities.

Let us now look at the Blood Donor Service as the blood donor sees it. He writes to the Blood Donor Service for an application which he fills out and returns by mail. He is promptly given an appointment at the earliest convenient time. Upon arrival at the headquarters he is asked a few questions, and is given a simple examination, including pulse and temperature readings, hemoglobin determination, and blood pressure reading. He is then led into the bleeding room and his blood is drawn.

The only qualifications which the donor must meet are those of age and health. A suitable donor may give blood as many times as he chooses provided that at least eight weeks elapse between donations. After the first donation the donor receives a bronze button signifying that he has given his blood to the Red Cross. After the third donation he is presented with a silver button.

If the donor is suitable, that is, healthy and between the ages of eighteen and sixty, a pint of blood is drawn, and after a short rest, the donor is given light

refreshment at the canteen, and is presented with his bronze button indicating that he has donated a pint of blood to the Red Cross. The whole procedure consumes about half an hour and leaves the donor with no ill after-effects whatsoever, so that he may immediately return to work. The donor receives his donor's certificate with his blood type by mail.

After the blood is drawn it is placed in sterile containers and stored in the refrigerator till the end of the day. At the close of work day all the blood which had been drawn during the day is transported in light trucks driven by members of the Motor Corp to the laboratory where it is processed, prepared, packaged, and distributed to the armed forces. The bulk of the dried plasma goes to the armed forces, but, by agreement between the Surgeons General of both the Army and the Navy and the American Red Cross, as much plasma may be diverted from war use should some internal catastrophe, such as flood, tornado, hurricane, or other major disaster occur as is necessary to take care of the immediate needs. This provision insures that an adequate supply of plasma be placed at the service of the Red Cross should a civilian emergency arise.

In response to the request of the Red Cross for blood donors the people of the nation have arisen as one and have offered their contributions of blood. Individuals by the thousands appear each day at the blood procurement centers. Groups from schools and other large institutions are offering their share as units in wholesale fashion as an indication of their eagerness to help. Mobile units of the Red Cross are being planned whereby temporary centers with complete staff and facilities for drawing blood can be set up at remote places where large numbers of individuals reside or work who do not have access to the established centers. Many factories and plants, which employ thousands of workers are at great distances from the regular bleeding centers, and travelling such long distances means considerable loss in work hours and production output. These men and women, too, want to and are doing their part.

This, in short, is a brief outline of one phase of the activities of the greatest humanitarian organization in the world, the Red Cross. Medical science has been progressing boundlessly in its efforts to discover and perfect new means of curing ills and saving lives; and the Red Cross is using to greatest advantage the results of these efforts, its success being partly

(Continued on page 31)

OBITUARY

LESLIE FREDERICK MACDIARMID, M.D., F.A.C.S.

Students, Alumni and friends of The Chicago Medical School will mourn the passing of Dr. Leslie F. MacDiarmid, who was a great friend, teacher and administrator of the School.

Born in Nebraska, educated at Creighton University and the University of Illinois, Dr. MacDiarmid started on his medical career in 1909. During the next thirty-three years he distinguished himself by great service to the medical profession. During the period 1926 to 1938 he was Director and Member of the Surgical Staff of the Garfield Park Hospital and from 1920 to 1938 served as a member of the surgical staff of the University Hospital. He was associated in the course of his life with two medical schools. He served as Chairman of the Department of Therapeutics at Loyola Medical College from 1916 to 1917, from 1917 to 1922 as a member of the surgical faculty.

During the last decade Dr. MacDiarmid was closely and actively associated with the Chicago Medical School. From 1931 to 1938 he served on the Faculty as Professor of Surgery and as Head of the Division of General Surgery, and on the Board of Trustees as Member of the Executive Committee (1932), as Vice-President of the Board (1932-1933 (1935-1936) and as Chairman of the Board (1938-1939). Although never completely severing his relations with the school, Dr. MacDiarmid retired from active service in 1939. He will be missed by all who knew him.

After Hippocrates' first contributions to physical diagnosis (characteristic facies, abnormality of fingernails, splashing sound in the thorax) twenty-one centuries elapsed until a major contribution to physical diagnosis was made by Auenbrugger's monograph on immediate percussion.

Norway sterilization law—"permits sterilization as a prophylactic of mental disease and of serious bodily ailment in the prospective progeny. The possible medical indications include neurasthenia . . . and such social conditions as unemployment and drunkenness on part of the husband." A word to the wise, gentlemen!

DEPARTMENTAL NOTES

Department of Physiological Chemistry

Dr. W. S. Hoffman attended the meeting of the Federation of Societies of Experimental Biology held in Boston from March 30th to April 3rd, 1942. He delivered a paper entitled "A Dilution Technique for the Photelometric Analysis of a Mixture of Two Colors." Dr. Hoffman has recently been elected Fellow of the American Society of Clinical Pathologists, Fellow of the American College of Physicians, and Member of the Illinois Chapter of Sigma Xi. A paper entitled "The Value of Blood Cl and Na Determinations in the Diagnosis of Dehydrations" by Dr. W. S. Hoffman and Miss B. Osgood will appear in the *Journal of Laboratory and Clinical Medicine*.

Department of Anatomy

The meeting of the American Association of Anatomists was held in New York on April 1st to 3rd. Drs. Sheinin, Sicher, Gruenwald and Spector attended. Dr. Sicher delivered two papers entitled "The Problem of Tooth Eruption" and "The Axial Movement of Continuously Growing Teeth." Dr. Gruenwald spoke on "The Distribution and Activation of Nephrogenic Tissue in Chick Embryos." Dr. Gruenwald was elected a member of the Association at this meeting.

Dr. W. E. McFarland is at present engaged in the preparation of papers on "The Innervation of Endocrine Glands" and "The Functional Regeneration of Glandular Tissue," the latter with the assistance of E. Felderman, '45.

Department of Physiology, Pharmacology and Therapeutics

Dr. L. B. Nice attended the meetings of the Federation of Societies of Experimental Biology, held in Boston from March 30th to April 3rd.

Dr. C. P. Kraatz was elected a member of the Illinois Chapter of Sigma Xi in May of 1942. He recently lectured at the Chicago Biology Round Table meeting on "Types of Blood and Their Inheritance."

Karl Vierordt (1818-1884) recorded the first accurate blood count, made upon himself in 1851. The sphygmograph was also a "first" with Vierordt who quoted an old teacher, saying "Nothing is interesting about a scientist except the day of his birth, the day of his death, and the results of his investigations." Therefore, I add to Vierordt's accomplishments important studies on respiration, hemoglobin, blood flow, blood pressure, and the introduction of graphic methods for the study of the pulse.

DISSECTING ANEURYSM OF THE AORTA WITH MULTIPLE TEARS ASSOCIATED WITH POLYCYSTIC KIDNEYS AND HYPERTENSION

JACK D. KIRSHBAUM, M.D.

Assistant Professor of Surgical Pathology, The Chicago Medical School

Presented before the Woodlawn Hospital Weekly Pathological—Clinical Conference.

The case is that of a man, aged 54, who came into the hospital complaining of becoming paralyzed in the right arm while playing cards. On admission the right arm was almost pulseless; he was cyanotic and unwilling to give further history. He had a blood pressure of 240/118 and three hours after admission he died. Additional history was obtained from his attending man who saw the patient first in February, 1936. At that time the man complained of a feeling of fullness after meals, some abdominal distress three hours or so after meals which was relieved somewhat by soda. He had a tendency to constipation; he slept very well and his past history was essentially negative except for influenza in 1919 and frequent colds; in 1907 he had a lesion on the penis which was treated by external application and was considered cured. In January 1933 he had pneumonia and was treated with antipneumococcal serum and got well in four days. Wasserman and Kahn tests in 1916 were doubtful. A provocative test was done, followed by spinal puncture, which was negative. Seven years ago he passed a kidney stone. Ophthalmic examination showed slight arteriovenous nicking; tonsils small and atrophic; blood pressure 182/122; the lungs were clear; kidneys not palpable; external genitalia normal; prostate enlarged and boggy. He had diminished reflexes of the patella and ankle but no positive Babinski. Speech was slightly disturbed. Diagnosis at that time was hypertension of the renal type. Urine showed 1+ albumin and one or two pus cells with occasional renal epithelial cells and two or three red blood cells. Prostatic fluid showed 25 to 30 cells per high power field. Blood count showed 13,000 white cells with 71 per cent polymorphonuclears, 22 lymphocytes and 5 per cent monocytes; 5,000,000 red blood cells and 90 per cent hemoglobin; color index 0.81. Wassermann and Kahn tests in 1936 were negative. The diagnosis was hypertension of the renal type with chronic interstitial nephritis with liver dysfunction, prostatitis and pyorrhea.

The patient received treatment for the prostate in the form of massage and the blood pressure was re-

ported in March 1936 as being 210/140, later as 180/120. X-ray of the teeth showed pus cavities. Blood pressure in July 1936 was 162/114; in February 1937 it was 204/140 and the prostate continued to discharge 40 cells on massage. Then he developed frontal headaches with disturbance of vision. Insulin was given. His blood pressure in December 1937 was 214/144 and at this time he had no complaints other than headache.

At autopsy this man was well nourished. Because of some cerebral symptoms the brain was examined. A thickening of the leptomeninges was found which is very typical of chronic syphilitic leptomeningitis or chronic alcoholism. The brain was swollen and on section there was nothing of any particular note. The vessels at the base showed a marked sclerosis. The kidneys were extremely interesting because they throw some light on the hypertension which was present. I have here all of one kidney and part of the other. The kidneys are enlarged. Together they weigh 1080 grams, compared to the normal of 250 grams. The kidneys were quite soft and the surfaces were studded with cysts up to 2 cm. in diameter. Some contained clear fluid and others were hemorrhagic. On section you will see practically all the parenchyma has been replaced by the cysts. Many have fused together to form larger ones and only in the periphery can you see a small amount of intact cortical parenchyma. This man died very suddenly; from what I heard he appeared to be fairly comfortable when he was brought in and in a few hours was found dead.

Here I have the heart. The aorta shows a longitudinal wrinkling typical of syphilitic aortitis. The wrinkling extends throughout the aorta, beginning above the leaflets, through the arch and down to the diaphragm. There is a puckering of the intima also. In addition there is also marked atherosclerosis. There are large fatty, and hyaline plaques, and also some calcification. When I opened the pericardial sac it was found full of recent liquid blood. The hemorrhage was noted to come from an opening in the ascending aorta. When the heart was opened it was markedly enlarged, particularly the left ventricle, and just above the aortic leaflet you will see a large U-shaped tear

involving the entire intima and part of the media. There is a second tear to the right, much shorter and extends into a separate compartment dividing the aorta into two tubes. The multiple tears of the aorta have resulted in a dissecting aneurysm. The tear has involved the entire arch, its thoracic and abdominal portions and the common iliac arteries. You will note that the iliacs have developed into two tubes. This is very unusual and interesting.

The other findings were small cysts in the liver up to 2 cm. in diameter; these were usually filled with clear fluid. The prostate was enlarged, a benign hypertrophy of the prostate. The lungs showed an emphysema and passive congestion.

This case illustrates that a patient may have polycystic kidneys and multiple cysts in the liver—the two processes often go together. The cysts in the kidney and liver are usually considered to be congenital in origin. Very often these kidneys are observed in infancy, immediately after birth, and for that reason many men believe the condition is congenital. On the other hand it is remarkable how many of these patients will go through life before manifesting symptoms of the condition. The finding of polycystic kidneys in older people would suggest that perhaps this is an acquired condition but I believe the modern opinion is that we are dealing with a congenital malformation of the units of the kidney. Early in the embryonic development the tubules and glomeruli fail to fuse; the glomeruli develop large cysts and some believe the tubules also give rise to cyst formation. It is a congenital malformation and many of these patients go along and develop a hypertension and many develop renal insufficiency and uremia.

This man in addition had a very marked arteriosclerosis. The rupture of the aorta is not related to the syphilis. These cases of dissecting aneurysm with tears, when studied histologically usually reveal that the tear has extended to the midportion of the media. In places where the tear has not been complete there was marked necrosis of the media. The elastic tissue is gone and this change is often described as median necrosis. It is a necrotic process on a degenerative basis. These tears in the aorta have been observed in patients very often following trauma, such as a blow to the abdomen, or in aviators who have crashed. Experimentally if one attempts to increase pressure within the normal aorta, tears or rupture do not occur. Most of these cases are people over fifty years of age and syphilis usually does not play a contributing role. In this particular case it was an incidental finding. In this case the separation of the walls of the aorta

was not as complete as I have seen it in some cases. I have posted a case where the dissection formed two independent tubes in the aorta. The site of the tears in this case is the usual one at the level of the aorta where it is fixed to the pulmonary artery. Another common site is higher up in the aorta where the Ductus Botalli originates.

This case illustrates how a patient may be suffering from many pathological processes. The anatomical diagnosis is, multiple tears of the aorta with formation of a dissecting aneurysm of the entire aorta into the iliac arteries; marked hemopericardium; congenital polycystic kidney; benign hypertrophy of the prostate; marked hypertrophy of the heart; passive congestion of lungs; syphilitic aortitis; chronic syphilitic leptomeningitis, and congenital cysts of the liver.

Discussion:

Dr. Frank Phifer: My experience with polycystic kidneys goes back to a case at Morrison Park Hospital. The attending man made a diagnosis of an abdominal tumor and he went in and found a very large polycystic kidney which he removed. At that time he had no idea what he was dealing with. The patient died shortly afterwards. Soon after that, another patient was operated upon for an abdominal tumor and a polycystic kidney was found and removed, and the patient died.

I have seen a great many polycystic kidneys and I am not at all proud of some of my diagnostic work prior to the advent of intravenous urography. I do not think this condition is unusual. Most cases have hematuria and pain and the diagnosis is made by urography. Almost always there is also present hypertension.

Dr. Kirshbaum stated that this condition is congenital. It is found in infancy, but the greatest period of frequency is between the ages of 40 and 50. It seems that the condition is progressive and at that time the glomerulotubule system is interfered with. Braasch has said that hematuria is present in 40 per cent of cases; pain is present and may be dull or colicky. The colicky type is more frequent and is more often on the basis of blood clot.

Another thing Dr. Kirshbaum brought out is the cystic changes in the liver; such changes are also present in the spleen, the pancreas, ovary, uterus and seminal vesicles.

Some men explain the condition on an inflammatory basis and some say it is neoplastic. Certainly the findings are not that.

(Continued on page 37)

ALUMNI

1914

Alfred L. Buck informs us that he commutes regularly between Palatine and Chicago and that his address here is the Columbus Memorial Building where he is associated with Dr. E. L. Brunswick.

1917

Morris D. Yampolsky is celebrating a quarter of a century in continuous practice. He is also on the staff of the Chicago Bureau of Health. Congratulations are tendered herewith.

1918

C. S. Sachtleben is a 1st Lieutenant, U. S. A. M. C.

1922

Clinton A. Elliott is President of Staff at the Woodlawn Hospital.

1923

Adelbert L. Anderson affirms his interest in school activities, but volunteers no personal notes.

D. A. Palmisano emphasizes his hopes "to see school get 'A' rating, good teaching material, and put out good graduates." Having achieved the latter aim, we concur with fervor about the former.

1924

D. C. Goldberg sends a short note on his work in general surgery at the Woodlawn Hospital.

1926

J. H. Wineberg is specializing in surgery and gynecology in Quincy, Illinois.

1928

Caesar Porter has made proctology his special field.

1929

Maurice S. Duclin is in general practice in Cambridge, Mass., just a stone's throw from fair Harvard.

H. H. Morrison is Attending Dermatologist at the Provident Hospital as well as Clinician at the Municipal Social Hygiene Clinic.

Chester Soberajski is Assistant Health Commissioner of Berwyn, Illinois.

1930

Harry T. Horner has been appointed to Associate Staff Membership at the Loretto Hospital.

1931

Armen N. Yazarian is specializing in neuropsychiatry in the State Hospital, Peoria; he is also called into consultation by the local selective service boards.

1932

Leonard J. Houda has been appointed to Associate Staff Membership at the Loretto Hospital.

Otto G. Koluvek is on the staff of the Walther Memorial and Berwyn Community Hospitals. He's been Health Commissioner of Berwyn since February, 1942. His hobby is flying. Still taking lessons, he hasn't flown solo, but has been initiated into tail-spinning, though the pilot would not permit him to right the ship, as yet.

Andrew Nagy and Mrs. Andrew have cause to celebrate. You guessed it—a baby girl.

1934

Herman J. Nebel specializes in obstetrics and gynecology and is Chief of Staff, Christian Welfare Hospital in E. St. Louis.

L. D. Morris informs us of his intention to open a clinic in the immediate future up Mt. Carmel way. The sooner, the better—we say.

1936

Albert N. Bowser has been delving into historical research during the odd moments of a busy general practice. From which he concludes, with Puck, "What fools these mortals be!"

E. H. Schnicke is practicing in Wyant, Illinois where he is Vice-President, Princeton Hospital staff and also functions as city health officer.

E. Wernick is in general practice "and getting along fine."

1937

Stanley B. Abelson is back at C. M. S., this time in the role of teacher.

S. C. Noto is in general practice and is also doing industrial work.

1938

Bernard S. Freedman has been examining physician for Local Draft Board No. 108 since March 1941. In the meantime he has applied for medical service in Uncle Sam's military organization.

Herman J. Horwitz specializes in neuropsychiatry and "enjoys teaching seniors in out-patient dispensary." Which we add parenthetically, is a rare attitude in any teacher.

Lawrence R. Medoff reports "lots of traumatic surgery due to oil drilling activity." His address is Grayville, Illinois.

Henry C. Paine is County Health Officer down in Austin, Texas.

Henry M. Ternone acts as consultant in venereal diseases for the Chicago Board of Health.

William A. Yacullo is also a specialist in venereal diseases and teaches at his Alma Mater.

1939

John A. Conley of Woodstock, Ill., makes his presence known to us.

Francis Patrick Fardy is assisting in obstetrics and gynecology in the Clinic.

M. J. Fox is associated with Dr. John H. Evans, and enthusiastically reports, "we average 30 majors in surgery, monthly."

Norman W. Jonas is staff physician at Barnstable County Sanitarium, Pocasset, Mass.

Harry Leventhal is clinical supervisor of Post-Graduate Hospital, Chicago.

J. A. Sanfilippo is taking additional work in hernias and varicose veins with a view toward specializing.

Nestor Scanlan is in general practice "deep in the heart of——" The city is Brownsville.

1940

A. Estin Comarr reports a residency at Polyclinic Hospital in Cleveland.

K. F. Kapov is associated with the well known industrial firm of Drs. Forrester, Stimson and Mason.

Michael G. Maitino states: "——am fairly busy preparing to open an office at the above address."

A. A. Palov is in Clifton, Illinois. He admonishes, "——don't ever overlook the fact that a small town practice is the best internship."

1941

B. F. Howland is interning at St. Joseph Hospital in Indiana.

He reports: I am very much pleased with this internship. It is as good as any hospital in the country."

The "couvade", the custom that prevailed notably among the Indians of Ecuador, in the north of Mexico, in Greenland, and in the Pacific coast tribes where the father, at the birth of a child, takes to his bed and behaves as if he were suffering the pangs of labor. Various restrictions of activity and diet precede and follow this confinement while the mother get up and goes about her duties.

Aboriginal American medicine had many novel aspects. At random—In anatomy, the Indians were said to be able to distinguish between arteries and veins and the "jugular" and femoral arteries and the aorta were given a name meaning "having no ears", because, when severed, they did not heed any remedies.

RAYMOND L. REDHEFFER

Raymond L. Redheffer, President of the Merchandise National Bank of Chicago, and member of the Board of Directors of the Chicago Medical School, is among the leading citizens of our city. His life is marked with the same vibrant energy and development that the city has shown in its growth from a sprawling mid-western town to the financial and industrial center it is today. Mr. Redheffer started his financial career as a paying teller at the First National Bank of Chicago in 1893. His ability and character soon won him the position of vice-president of the



Second Security Bank. And by 1921, Mr. Redheffer was President of the Amalgamated Trust and Savings Bank, a position which he held until 1925. By 1929 he had assumed his present position as President of the Merchandise Bank and Trust Company which now bears the name of the Merchandise National Bank of Chicago. He has also held leading executive positions with Hitchcock and Company, Investment Bankers, and the Steuben Security Company.

Along with the vital part he has played in the development of the history of banking of the City of Chicago, he has also assumed responsibilities as a

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ABSTRACTS

CRUSH SYNDROME, H. R. Robertson, Captain, R. C. A. M. C. and W. H. Mathews, Major, R. C. A. M. C. *The Canadian Medical Association Journal*. 46:116-120, February, 1942.

A condition, characterized by a suppression of renal function following a crushing injury resulting in muscle damage, referred to as the "crush syndrome" has recently been reported in the literature.

The *findings* include shock, tenderness, edema, possibly whealing of the skin, partial or complete loss of sensation and paralysis of the affected limb and reduced or absent arterial pulsation.

The initial shock may be controlled, only to reappear in a few hours or days and again be controlled by more vigorous methods. The patient, although not in shock, remains drowsy, apprehensive, and vomits frequently. The tongue is coated and the breath foul. The urine is of low volume with a fixed specific gravity of about 1.015. It is acid, and albumin and white blood cells are commonly present. Red blood cells are occasionally present. Granular, pigmented casts, and a positive benzidine reaction is almost always present.

The blood pressure, blood urea and potassium, edema (especially with forced fluids), and dilution of the blood increases. The urinary output and carbon dioxide combining power of the blood decrease. Muscular twitchings and an intermittent apical systolic murmur have also been noted.

Recovery is initiated by an increased urinary output and a reversal of the above findings. The affected limb may or may not return to normal.

Death, when it occurs, is usually on the seventh to tenth day.

The *pathology* of the condition is found in the kidneys and skeletal muscles. The kidneys show congestion and edema grossly, and microscopically, albuminous material in Bowman's space, degenerative changes of the epithelium of the convoluted tubules and loops of Henle, with some shedding, and eosinophilic coagulum within the tubules, and granular, greenish-brown pigmented casts suggesting blood pigment, especially in the collecting tubules.

The damaged skeletal muscle is pale, hemorrhagic, microscopically necrotic and shows a multiplication of muscle nuclei and young fibrous tissue. One case also showed interstitial fibrosis of the sciatic nerve with lymphocytic infiltration, and medial degeneration and calcification with atherosclerosis of the arteries of the involved limb. The veins were normal.

The *etiology* is thought to be the accumulation of myohemoglobin liberated from the muscles of the crushed extremity in the tubules to form casts which by either blocking or irritation cause a reduction in the urinary output. Tubular degeneration due to a nephrotoxic substance liberated from the damaged muscles is also a possibility.

The most successful *treatment* consists of the usual shock therapy plus alkali administration. This is based on the facts that these cases show an acidosis, and that the casts are probably formed as a result of an acid urine. Sodium citrate or bicarbonate is administered orally or rectally in large doses until the urine is alkaline. Sodium sulphate intravenously has also been used.

THE MISUSE OF SULFONAMIDE COMPOUNDS, Frederick W. Taylor, M. D. *J.A.M.A.* 118: 959-961 March 21, 1942.

Due to the miracles already performed by the sulfonamide compounds, these drugs have been used in many conditions and infections for which they are not specific. These practices include the prophylactic implantation in a clean operative wound or any wound which is to be closed, and the local implantation at the site of an appendectomy or appendiceal abscess.

In the treatment of *closed wounds* or *wounds that are to be closed*, it is to be remembered that the sulfonamides are tissue irritants of such a degree that inflammation and edema or even abscess formation may result. This has been proven experimentally (this does not apply to open infected wounds).

In the treatment of *appendicitis* and *appendiceal abscesses*, many have advocated the local use of the sulfonamides. Due to the irritant nature of these drugs, however, adhesions may result, as has also been proven experimentally. In the case of a walled-off appendiceal abscess with adequate drainage, these drugs are not indicated.

After an appendectomy, the serious complications are due to distant peritoneal abscesses and covering the cecum with a sulfonamide has no appreciable effect on these distant complications. Furthermore, since the sulfonamides are absorbed and then distributed to the regions of the body, their concentration at the site of these complications is no greater than can be obtained by giving the drug orally or parenterally. The concentration of these drugs in the peritoneal cavity is also kept at higher levels by the usual methods of administration.

The author, therefore, concludes that the use of sulfonamides in clean, closed wounds and in the region of an appendectomy is not indicated.

THE USE OF DILANTIN SODIUM IN BRONCHIAL ASTHMA: A PRELIMINARY REPORT.
Maurice H. Schulman, M.D. *New England Journal of Medicine*, 226:260-263, Feb. 12, 1942.

Articles in recent literature concerning the "asthmatic personality" and psychogenic factors in bronchial asthma have become more frequent.

A search for a treatment of asthma which would produce its effect through the nervous system led to the use of sodium diphenyl-hydantoinate or dilantin sodium.

Only cases with intractable asthma, characterized by repeated, frequent, acute attacks of asthma, and a constantly wheezy respiration were used. No case of purely seasonal asthma was used. All the patients had been skin-tested with positive results.

Dilantin Sodium was administered in the absence of any other medication. The dosage, $\frac{1}{2}$ grain twice a day or three times a day, was the initial dosage and increases were made of $\frac{1}{2}$ grain daily per week, until the patient was symptom free on moderate exertion. The patients were not restricted as to diet or environment.

In a series of seven cases, six were markedly relieved. Three showed personality changes for the better, such as lessening of irritability, and being easier to live with.

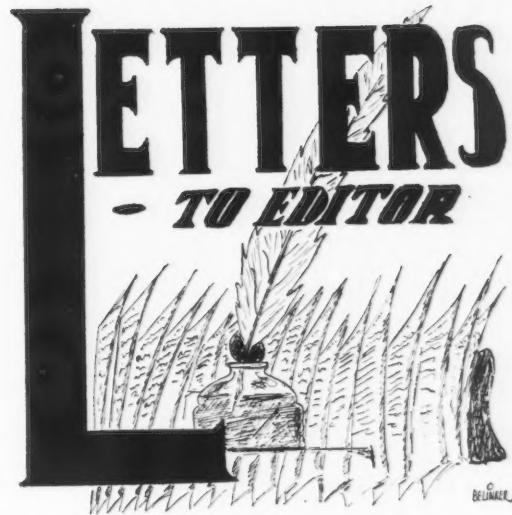
The modus operandi of dilantin sodium in asthma is as yet unknown.

THE RELATION OF TANNIC ACID TO THE LIVER NECROSIS OCCURRING IN BURNS—
D. B. Wells, H. D. Humphrey and James Call . . .
New Eng. J. M., 226:16, April 16, 1942.

The authors present evidence to show that the liver necrosis occurring in patients dying of toxemia after extensive burns, is in reality a toxic reaction to tannic acid, which is absorbed during treatment. Apparently no reports are to be found in the literature of liver necrosis following fatal burns until recently, and yet the lesions are so typical that they would certainly have been noted. The author's findings are confirmed by a reproduction of the specific necrosis in rats, rabbits, and guinea pigs both by the subcutaneous injection of tannic acid and by the treatment of artificial burns with various sprays and jellies containing tannic acid. Despite the hepatitis produced in certain cases, tannic acid has reduced the mortality from burns and therefore it should not be abandoned, but a watch kept for any signs of liver damage.

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THE QUARTERLY



To the Editor:

It has been a source of great satisfaction to me as a student of Chicago Medical School, to observe what a fine job the editor and his staff have done in turning out a publication which is educational, stimulating, and worthy of the aspirations of the school.

On the other hand it is to be regretted that the Journal takes little interest in the extra-curricular activities of the students. As yet it has not realized its potentialities which lend it the power to become the leader in all student activities. Last year, as a matter of fact, Chicago Medical School had a basket-ball team representing it, which played in competition with Illinois School of Dentistry, Illinois School of Medicine, Rush Medical School, and other professional schools in this area.

Most students in this school would derive, I imagine, a certain amount of satisfaction in reading about their School's doings and learning for example, that the Chicago Medical School placed first in this competition. Yet the Journal professed disinterest in such goings on. It appears that basket-ball is beneath the dignity of the medical student.

In opposition to such a view it is my suggestion that a Sports column be included in the Journal.

I further recommend that the Sports Editor undertake the sponsorship of an inter-class soft-ball tournament as his first job.

Henry Goshen.

ORGANIZATIONS

ASSOCIATION OF INTERNES AND MEDICAL STUDENTS

The Chicago Medical School chapter of the Association of Internes and Medical Students has been attempting to coordinate its activities in such a manner as to interest and help every medical student in every way possible—from his scientific interest to his war interest.

To do the above things, our chapter has a Red Cross Blood Bank Drive, in which many of us have volunteered to go down to Red Cross Headquarters on July 18, and give our blood. Our chapter is also assisting in the sale of our school library's supply of war stamps and bonds, and in collecting defense metal materials.

Much attention is being paid also to the scientific interest of the student; movies are shown from time to time on such topics as *Technique of Blood Transfusion*, *Compound Depressed Skull Fracture*, *Cancer of the Female Breast*.

Further, guest speakers including Dr. Rachael Levine, of Michael Reese Hospital, a noted scientist and international authority on Carbohydrate Metabolism, and others, have spoken before the student body. Dr. Levine, ably introduced by our own Dr. Hoffman, spoke on *Some New Concepts in Carbohydrate Metabolism and Diabetes Mellitus*. Dr. Levine outlined the most recent research on the subject, touching on his own work, not yet published. Dr. Levine told us that he has narrowed down the action of insulin in the tissues to its enzyme action in the conversion of the triose phosphates of muscle in order that there be energy and phosphoric acid for the rephosphorylation of glycogen.

Dr. Levine emphasized however that it is only in the diabetic animal whose blood sugar has been artificially reduced to normal levels that there is any diminished utilization of sugar, pointing out that the diabetic animal uses the same amount of sugar as does the normal, the difference being the blood sugar levels at which this is occurring.

Dr. Maurice Silver of the University of Chicago spoke to the student body on Wednesday, May 27th, on *Neurotropic Viruses and Virus Diseases*. Dr. Silver is a research worker for the National Infantile Paralysis Foundation.

In summary, then, our A.I.M.S. activities have dipped into all phases of the medical student's life—

his place and function in society, in war, in science and medicine. We hope to have an even fuller program to report for the next quarter.

NU SIGMA CHI

During the current year Nu Sigma Chi has been more active than it has been in the past decade with many new members being initiated into the Fraternity. More social gatherings were held for the Alumni and Active Brothers, so that a better acquaintance was established among them.

The informal and formal initiations were a tremendous success. The Eighteenth Annual Formal Initiation and Homecoming Dinner Dance was held at the Hotel Del Prado. At the dinner the new members were presented with their keys and certificates by Dr. J. J. Sheinin. Dr. W. P. Mavrelis also received his key, being this year's Honorary Member. The other guests were Mr. and Mrs. B. W. Dickson, and Dr. and Mrs. C. P. Kraatz. Many Alumni brothers were also present.

On behalf of the honorary members, Alumni and Active Brothers, we extend our sincerest gratitude to this year's officers who have activated the Fraternity and also for bringing the Alumni Brothers together with the new members by keeping in constant contact with them.

Elections of next year's officers were held and the following were elected:

Grand Regent.....	B. Iaia
Vice Regent.....	N. Esposito
Scribe	H. McCraney
Keeper of the Seal.....	B. Bodwin
Chancellor of the Exchequer.....	L. Seno
Assistant to the Chancellor.....	J. Reavley
Guards.....	P. Vitullo and P. De Marco

PHI LAMBDA KAPPA

It is with considerable pleasure that the fraters of the Alpha Rho Chapter of Phi Lambda Kappa look back upon a year of successful activity. On March 1st, at the Webster Hotel, twenty-four new members were admitted and initiated, swelling the chapter membership to a new high peak. At the completion of the impressive ceremonial, national officers of the fraternity and prominent Alumni members of the Chicago Area addressed the assemblage.

The current quarter was marked by numerous dinner meetings held jointly with the University of Ill-

inois Chapter of Phi Lambda Kappa, our collaboration culminating in a jointly-held Annual Spring Formal at the Knickerbocker Hotel on May 3rd. Fraternity meetings were noted for their diversity, with every note from sociability to scholarship being sounded. Among the speakers for the current quarter were Dr. Harry Sicher, Dr. Wang, Chinese Consul to the Mid-western United States, Dr. Bernard Horwitz, Worthy Superior of the Chicago Club of Phi Lambda Kappa, Dr. M. I. Kaplan, Dr. J. Poticha, and Dr. J. Brodsky.

This year the Freshman Award was offered, for the first time, to James Weishaus, for outstanding scholarship in his first year at The Chicago Medical School. Morton Podolsky received honorable mention. Henceforth this award will be made yearly.

At a recent meeting, officers for the coming year were elected. They are as follows:

President: LeRoy P. Levitt.

Vice-President: Raphael M. Adelman

Scribe: Bernard Liebschutz

Treasurer: Milton Plafker

Sergeant At Arms: Stuart Rabeau

With the able guidance of these men, the Alpha Rho chapter looks forward to another year of fraternity and service to school and country, with the fond hope that soon it will be represented at the line of battle.

THE BLOOD DONOR SERVICE

(Continued from page 22)

shown by the results obtained by the Blood Donor Service. Some seventeen to eighteen thousand pints of blood are drawn, processed, and packaged each week in the United States, and there is no doubt that this figure will progressively be exceeded.

The medical profession does its share eagerly and willingly. The Red Cross discharges its self-assumed obligations with enthusiasm born of true altruism; but the efforts of both are in vain without the support of the people at large. A small, insignificant sacrifice borne quietly by those left to fight on the home front may be instrumental in saving the life or lives of the boys who fight on the battle front. A pint of blood is little enough to give to save the life of one who spills his in battle that we may retain and hand down to those who come after us the sacred and cherished heritage of ". . . life, liberty, and the pursuit of happiness . . ."

THE QUARTERLY

ABSTRACTS

(Continued from page 29)

LEUKOCYTOSIS-PROMOTING FACTOR IN INFLAMMATORY EXUDATES OF MAN. Valy Menkin, M. D., M. A. Kadish, A.B. and Sheldon C. Sommers, M.D. *Archives of Pathology*, 33: 188-192

Since the presence of a leukocytosis-promoting factor in the pseudo-globulin fraction of inflammatory exudates of dogs and rabbits had already been demonstrated, and since it is more potent than the commercial nucleotides in causing a leukocytosis, it was thought desirable to determine its presence in human inflammatory exudates, with the idea that a substance causing a leukocytosis in man may be of clinical value.

Exudates were obtained from patients with a pneumococcal empyema and extracted, and the purified extracts injected into dogs by cardiac puncture. This resulted in an increase in the polymorphonuclear leukocyte count, which was parallel to the increase in the immature forms of these cells, the peak occurring about six hours after injection and the effects lasting between one or two days. Normal human serum did not show the presence of this factor.

STUDIES ON THE BLOOD HISTAMINE IN CASES OF BURNS. Bram Rose, M.D., Ph.D. and J. S. L. Browne, M.D., Ph.D. *Annals of Surgery*, 115: 390-399, March, 1942.

The etiology of burn shock, as in other forms of shock, is still disputed. Evidence for and against a toxic etiological factor has been presented, from time to time, in which histamine has been frequently considered.

In a series of burn patients, the histamine content of the blood was determined during the course of hospitalization. It was found that following severe burns, there occurred a marked increase in blood histamine within an hour. Later, a marked drop in blood histamine, which reaches its lowest level on the third to fifth day, at the time when edema and toxemia are most marked, is noted. As the edema and toxemia disappear, the blood histamine level rises to normal values or higher, and may remain above normal for some time. Those cases that died showed a decreasing blood histamine level.

Possible theoretical explanations of the strange fluctuation of the histamine content of the blood are briefly discussed.

BUY WAR BONDS AND WAR STAMPS.

HOW BRITAIN SOLVES HER HOSPITAL PROBLEM

(Continued from page 11)

are 63,500 casualty beds in the London area, of which about 36,000 are in casualty receiving or advanced base hospitals. Each sector is controlled by a group officer, who is a distinguished medical man from a voluntary teaching hospital at the sector's apex. The group officer is assisted by one or two medical officers (who may deputize for him), two lay sector officers, and two sector matrons, one of each pair being drawn from municipal, the other from voluntary hospital service. Included are advisors on special medical subjects. Inter-hospital transport of casualties is assigned to a regional hospital officer for all London sectors. The supervizing and coordinating of the work of the London group is undertaken by the Ministry of Health.

Embraced in the Emergency Hospital Scheme is a system of special treatment centers. There are nine centers for neurosis. There are ten neurosurgical centers and a number of centers for treatment of skin diseases, burns, etc. Since July, 1940, blood transfusion services have been built up under the Ministry of Health. Each region has its own service including reserves of dried transfusion fluids, and mobile blood transfusion and resuscitation teams. Naturally, under war conditions the dangers of infectious outbreaks, too, are very great. To facilitate early diagnosis of such outbreaks and to distribute vaccines and sera, the Medical Research Council at the request of the Ministry of Health has established an emergency public health laboratory service. The services of these laboratories are provided without fee to all hospital and health authorities.

The government incorporated into the Emergency Scheme only as much hospital capacity as it thought necessary to provide treatment for service men, civilian air raid casualties, and unaccompanied evacuated children. It also paid the original costs of transferring civilian sick to bases so as to keep casualty beds empty. The government's estimate of expected casualties proved to be high and adequate pressure developed to extend the groups which might be treated in E. H. S. beds. Gradually, therefore, access was granted to civil defense workers and Home Guards and to workers in key positions whose early return to work was vital to war production. Sick civilians transferred from target areas contribute to the cost of their treatment according to their means.

The Emergency Hospital Scheme was not without

its difficulties. Early in the war it was a common weakness to rush too many casualties to one receiving hospital. The hospital was naturally unwilling to turn away casualties and frequently too, failed to call on outside surgical teams to assist. This led to many unnecessary delays in treatment, a difficulty which was overcome in 1941 when a more flexible system of switching casualties was introduced. Centrally located receiving hospitals were always in danger of being bombed. Some of these were moved to the outskirts of target areas, but in some cases this was too impractical. In a few instances underground emergency hospitals have been established. Birmingham has three such hospitals in underground basements of strongly constructed commercial buildings.

The reduction of civilian accommodation in voluntary hospitals led to an unusual influx of patients into London County Council institutions where the number of beds for casualties was restricted. It was a natural desire of London County Council doctors to retain control of their patients and their transfer to base hospitals to keep casualty receiving beds free was often retarded. Frequent air raids also brought about an increase in chronic sick cases. In November, 1940, the Ministry of Health evacuated 4,000 aged and infirm persons who frequented public shelters. It is believed that there are still 5,000 chronic sick cases in the London area. Many of these will have to be discharged if heavy raids occur again, but the problem of their eventual accommodation is not yet solved.

In reviewing the merits of the Emergency Hospital Scheme several outstanding achievements can be mentioned. It has begun a process which total warfare makes absolutely imperative, a pooling and reasonable distribution of medical resources and scientific skill. This implies medical cooperation and planning on a national scale. It has set into motion the tendency toward a more even distribution of medical talent throughout the country. The special centers provide opportunities for improvements in medical knowledge and skill. "Up grading" of old hospitals and the building of new ones has improved the quality of medical service. Undoubtedly there will be a permanent trend for many hospitals to remain in the suburbs and country districts away from the filth and noise of large towns. It has fostered a spirit of co-operation between voluntary and municipal institutions, an all-out effort which in previous times was marked by petty misunderstandings and independence. There is little doubt that it will have a profound, beneficial effect on British medicine in the post-war era.

Books

CLINICAL UROLOGY—O. S. Lowsley and T. J. Kirwin, Williams and Williams, 1940, 2 vols., \$10.

Although "Clinical Urology" by Drs. Lowsley and Kirwin was published in 1940, it is a newcomer to our library and hence the belated review of the book. It is the most recent of urologic textbooks and differs in many respects from the usual text on the subject. Because of the method of presentation and particularly because of the emphasis on surgical technic this textbook answers a wish of urologists who have long felt the need for a book that was up to date on these points.

The first six chapters are devoted to a thorough discussion of a urologic study. This part deals with the fundamentals of clinical urology and should serve as an excellent foundation for the student and general practitioner. A brief review of Embryology, Anatomy and Physiology precedes the presentation of each organ of the genito-urinary system and its diseases. These introductions orient the reader and give him the necessary background in a concise and up to date form. Chapters on the female external genitalia and radium therapy in urology are other subjects usually omitted in other textbooks on urology.

However, the outstanding merit of the book lies in the detailed description of all urologic operations. This is done in a most thorough manner. Here the authors draw from the wealth of their extensive and varied operative experience. These chapters are authoritative and highly instructive. The urologist will particularly appreciate these discussions of surgical technic

since they are detailed and practical. The beautiful illustrations by Mr. Didush greatly aid the understanding of fine points as well as of general surgical principles.

This book was intended for the medical student and general practitioner but it is of no lesser value to the urologist for whose use it is highly recommended. This new addition to our library will be one of those reference books that will be read with profit by teacher and student alike. L. A. Maslow, M.D.

ADMINISTRATIVE MEDICINE, Edited by Haven Emerson, Thomas Nelson & Sons, New York & Edinburgh, p. 839.

It is impossible to give the amount of attention to this piece of work that it deserves in a short review of this type. A multitude of fields of medicine are covered from the administrative point of view. For anyone interested in public health, this book is to be strongly recommended as a "must."

It is to be recognized that the term "Administrative Medicine" includes the relationships of interested individuals, groups and institutions with communities or populations from the viewpoint of rendering medical services of a preventative or therapeutic character. The authors and editor have attempted to give to the medical profession a single volume in which the problems of various fields of medicine are integrated and resolved into their component parts. This is necessary to show that every aspect of the general field of public health has special administrative problems that have to be solved by means applicable to particular circumstances. Since many diseases present particular problems and many localities present problems peculiarly their own, and since the authors approach the situation from just these angles, there results a source book of information of very great value; more so because the authors of the various sections are recognized authorities in the particular phases they cover in the book.

The subject matter is conveniently divided into three principle parts. I. The organized care of the sick, which describes the organization of hospitals, outpatient services, visiting nursing service and special services for the tuberculous, the sufferers from communicable and mental diseases.

II. Public Health Services, dealing with organizational problems of international, national, state and local health departments, then going on to special departments such as venereal disease control, maternal

and infant hygiene, cancer control, etc.

III. This section is reserved for a presentation and discussion of the problems of governmental control of medicine.

It becomes obvious from this short discussion that this volume is comprehensive in scope, informative and an excellent adjunct to any public health library.

I. S. Neiman, M.D.

BEHIND THE MASK OF MEDICINE by Miles

Atkinson, M.D. Charles Scribner's Sons 1941.

341 pages, \$3.00.

Dr. Atkinson is in the category of *rara avis*, being a distinguished surgeon, philosopher and author. After receiving most of his training and observations in England, his journey to the United States in 1936 resulted in his permanent stay as Chief of Otolaryngologists at the New York Hospital.

Well versed in all phases of medicine, during war and peace, in Europe and in the United States, both in private and hospital practice, Dr. Atkinson has welded his observations with the inescapable social forces directing the destiny of medicine and organized them into both a readable and factual work.

Eliminating technical terms, he tears down the artificial barriers that are too often raised between physician and patient. His scrutiny of the obvious failings of medicine as it exists is done from a worthwhile and constructive standpoint.

Aside from these major discussions, problems such as unethical practices, excesses in surgery, euthanasia and many other oft-spoken-of sidelights are ably searched and explained by Dr. Atkinson.

A firm believer that man has not yet reached the limit of his capabilities, Dr. Atkinson feels that medicine is the great aid in this fight and he says, "The sick still have to be tended though the days are dark. Medicine may prove to be the link that will join the old age to the new."

L. P. Levitt.

FOUNDATIONS FOR THE VISCERO-SOMATIC SYMPTOMATOLOGY IN THE NEUROSES

(Continued from page 14)

expression of the influence of higher cortical function acting primarily through the autonomic centers at the cortical or hypothalamic levels. With the advent of the war, we can expect to witness an increase in the multitude of physical symptoms arising in the psychic sphere, and not only the creation of havoc and "shell shock" in that realm, but by the disruption of the fine autonomic balance, the distortion of the smooth function of the whole visceral structure.

SPINAL ANESTHESIA, A PLEA FOR ITS ROUTINE ADOPTION

(Continued from page 10)

upon their effects on the vasomotor centers, are, of course, of little value. Impulses emanating from these centers could not pass the blockade. The only drugs which might have any value are those which act directly upon the blood vessels; and even here we are confronted by a condition in which it is almost impossible to get enough of the drug to the desired region to secure any worth while effect. If adrenalin be given intravenously in a normal animal, the vessels (particularly of the internal vascular area) respond to its constrictor action with a marked rise in blood pressure. Plethysmographic investigation reveals that the kidney and spleen decrease considerably in volume so that the curves taken from these organs move in a direction opposite to those of the blood pressure. The blood pumped out of the internal organs is forced towards the heart. The rise of blood pressure which follows the intravenous administration does not as a rule last longer than from one to three minutes because of the very rapid destruction of the adrenalin due to the fact that oxidation takes place in the alkaline solutions of the body tissues. Adrenalin has a direct action on the heart, increasing the rate and strength of systole. This effect corresponds to the stimulation of the accelerator nerve. This, too, is quite transitory. When adrenalin is injected into an individual or an animal in whom spinal anesthesia has been induced, the effect must necessarily be different, and, unfortunately, the greater the need of the effect the less is the desired result. The marked fall in blood pressure in such a person or experimental animal resulting in venous stasis prevents the adrenalin from reaching the desired point where its action is most needed, namely, the dilated splanchnic vessels. Too small a quantity is carried to this area to secure any valuable local reaction.

It was the realization of this state of affairs which probably prompted Babcock to advocate the intravenous saline injection in cases of severe collapse following spinal anesthesia induced by the method he employed. Intravenous saline insures liquid contents for the heart chambers upon which the cardiac muscle can contract and which can be sent out into the circulation to help maintain the activity of the center.

There are no contraindications to the use of spinal anesthesia except local infections at puncture site and cerebellar neoplasms. Dr. Koster uses subarachnoid block in almost 100% of his surgery with the excep-

tion of operations which take a very short time such as incision and drainage of fingers and abscesses, removal of small tumors and the like. With these he uses an intravenous anesthetic such as evipal or a few whiffs of some inhalation anesthetic such as nitrous oxide, ethyl chloride or some other short acting anesthetic.

The variety of procedures carried out under spinal anesthesia in the Koster Clinic are indicated below:

1. Amputation of lower extremity up to hip.
2. Embolectomy of external iliac, bifurcation of abdominal aorta, etc.
3. Herniotomy.
4. Reduction of fractures and dislocations.
5. Operation for osteomyelitis, lower and upper extremity.
6. Appendectomy.
7. Excision of rectum for carcinoma.
8. Colectomy.
9. Enterectomy.
10. Hemorrhoidectomy.
11. Anterior and posterior colporrhaphy.
12. Tracheloplasty.
13. Interposition operation.
14. Repair of vesicovaginal and rectovaginal fistulae.
15. Salpingo-oophorectomy.
16. Hysterectomy.
17. Perineorrhaphy.
18. Hysteropexy.
19. Nephrectomy.
20. Nephropexy.
21. Nephrolithotomy and pyelotomy.
22. Uretotomy.
23. Prostatectomy.
24. Cholecystectomy, choledochotomy, and cholecystenterostomy.
25. Splenectomy.
26. Gastrectomy, pylorectomy, pyloroplasty and gastroenterostomy.
27. Costatectomy, thoracotomy and lobectomy.
28. Radical mastectomy.
29. Embolectomy of the axillary artery.
30. Thyroidectomy.
31. Resection of cervical glands.
32. Craniectomy.
34. Excision of spinal cord tumor.
35. Excision of tumors of the tongue, face and scalp.
36. Plastic repair of cleft palate, hare-lip and protruding ears.
37. Nasal plastic.
38. Mastoidectomy.
39. Caesarian section.
40. Ectopic pregnancy.

The advantages of spinal anesthesia are innumerable. For a detailed discussion of them I refer you to the papers published by Dr. Koster and his co-workers. I shall proceed to mention a few.

Spinal anesthesia can be used in the young and old alike. Patients with diseases of the heart, kidneys, respiratory tract and with metabolic disturbances tolerate it well. Spinal anesthesia usually prevents operative shock effectively. The blockade of shocking impulses, coming from the operative field and bound for the cerebrum, has a very beneficial influence on the central nervous system and is at least efficacious in producing the anociassociation of Crile. He has shown

that the inhalation anesthetics allow these shocking impulses to reach the brain where they produce chromatolysis of the cells, thus adding to the cerebral shocks of the operation. This is an important difference between the two forms of anesthesia.

In addition to the advantage mentioned above spinal anesthesia is in many other respects superior to inhalation anesthesia. There is no necessity for the surgeon to be dependent on a trained anesthetist in order to have his operation run along smoothly. The resident, interne or even one of the operating room nurses may in a very short time be taught to become quite adept in the art of administering spinal anesthesia.

No special preparation is necessary with spinal anesthesia. This is of especially great advantage in emergency surgery where we would run into trouble were we to use ether or any other form of inhalation anesthesia on a patient possibly having a pneumonia, a full stomach, needing a complicated operative procedure and so on. The postoperative course would surely be much more stormy with inhalation anesthesia—the morbidity and mortality greater.

When the anesthetist secures the maximum of relaxation with ether anesthesia, he is also acquainted with the fact that an accompanying phenomenon is the abolition of the cough reflex, and in addition it is irritating to the broncho-pulmonary tree and kidneys and has a hemolysing effect on the blood. The danger of developing a postoperative pneumonia is apparent. This is especially hazardous in a surgical patient who in the first place must have the resistance to tolerate a complicated operative procedure and in addition may have some previous metabolic disturbance such as diabetes mellitus, nephrosis, exophthalmic goitre, acute toxemias (eclampsia, hyperemesis gravidarum etc.), or perhaps he may be aged, cachectic, anemic, or suffering from some disease of the heart, lungs, kidneys or some other vital organ. If we study statistics we see that the occurrence of pneumonia following inhalation anesthesia is indeed high—mortality rising along with the incidence of the disease. This is not the case with spinal anesthesia, as far as increasing the patients chance of developing pneumonia.

The value of spinal anesthesia in surgical cases with hypertension should be obvious. Such patients do not tolerate ether and nitrous oxide very well as they stimulate and raise the general blood pressure.

In patients with cardiac decompensation the effect of subarachnoid block can be compared to a phlebotomy, due to the drainage into the abdominal veins.

The consequent fall in blood pressure removes some of the load from the right heart and so obviously has a beneficial effect.

The uninitiated surgeon, whether he be operating on some abdominal condition, doing an open operation for fracture or osteomyelitis of an extremity, or for that matter any form of surgical procedure, is both surprised and delighted to find such marked muscular relaxation, besides a minimal amount of bleeding and attendant shock. The relaxation of the anal sphincter can only be compared to that found in a cadaver and you must readily realize what a boon this proves to be to the proctologist.

The surgeon on going through the peritoneum does not have to begin his usual wrangle with distended intestines which protrude through the incision. Due to the marked muscular relaxation only gentle retraction is necessary and upon looking into the peritoneal cavity one is certain to note its marked increase in diameter due to the fact that the intestines are lying quietly relaxed (although the intestinal tone is increased because the splanchnic inhibitory impulses allow a preponderance of vagus augmentor action) against the vertebral column, allowing the operator to inspect more easily the abdominal cavity. The necessity of lap sponges with its increased operative trauma and insult to peritoneum and intestines is avoided. You can readily see that spinal anesthesia is especially indicated in cases of intestinal obstruction with its attendant distention and paralysis of the bowel in ileus.

Another advantage is the fact that in head anesthesia there is an absence of complete motor paralysis of the upper extremities and head. A patient who is undergoing a thyroidectomy is able to use his vocal cords and so we can determine by simple questioning whether we are traumatizing the recurrent laryngeal nerve. Likewise, in repairing lacerated tendons of the fingers or hand we can determine if they are getting proper function by requesting the patient to move the affected part. None of this is possible with inhalation narcosis.

At no time is it necessary to distort the operative field with a local infiltration of novocaine as is the case with ether or nitrous oxide. A good example is the common thyroidectomy where the usual routine is to inject some local anesthetic into the cervical region in order to prevent shocking impulses from reaching the brain. There is no necessity for this with subarachnoid block.

Alcoholics who usually have some associated involvement of the kidneys, liver, or heart, do not tol-

erate inhalation anesthetics very well, due to the fact that they require such large amounts of the anesthetic and it proves to be an irritant to the aforesaid organs and to the pulmonary system. They do very well with spinal anesthesia.

We shall not go into a discussion of the postoperative complications such as urinary retention, constipation, headache, visual disturbances, neuritis, etc. which verily may be attributed to the effects of the spinal anesthesia, i.e., the lumbar puncture itself, due to its local irritating effect or the change in cerebro-spinal tension, or perhaps some foreign substance in the solution used—but which as a rule respond readily to symptomatic treatment. Do we not find many of these complications when some form of inhalation anesthetic is used? Surely a contributing cause is the trauma of the surgical procedure and why not consider in the etiology the pathology of the disease for which the surgery was performed?

You may consider the above attitude toward spinal anesthesia as quite revolutionary—but such is not the case. Dr. Koster does not even claim his utilization of it in surgery above the diaphragm as being original with him. Men like Jonnesco, Lefilatre and many others had used it in thousands of cases before him. In this country there are references to the use of spinal anesthesia for head operations back as far as 1901 in which year mastoidectomies and enucleations of the eye were reported (Payne). Among the reasons for the method having been placed into discard in all likelihood was the adverse criticism based purely upon theoretical speculations and not upon the accumulation of scientific data. The Koster School has done its utmost to disperse information concerning its findings by means of articles, lectures and demonstrations. I do believe that its tireless efforts are beginning to bear fruit and in the very near future we will find inhalation anesthesia being replaced to a greater extent by the spinal form of anesthesia.

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1. I wish to acknowledge the fact that most of the theoretical speculation, scientific and clinical data contained in the above article is that of Dr. Harry Koster and his co-workers. The impetus for writing this paper came from the fact that such widespread objection to the use of spinal anesthesia exists today even though in my experience with it at the Crown Heights Hospital I noted how vastly superior it is to the inhalation form of anesthesia.
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BACTERIOLOGY AND WAR

(Continued from page 4)

The campaign against gonorrhea and against syphilis has been implemented by the general educational efforts in this country, and is further aided in particular by sulfa-drug therapy in the case of gonorrhea. For syphilis, the five day treatment continues to show promise. There has been a good deal of work concerning the toxins of the gonococcus but as yet nothing conclusive.

The appearance of large numbers of rural-bred individuals in Army camps who have not been previously exposed to childhood diseases has led to occasional outbreaks of measles, chicken pox and mumps in epidemic proportions. The prevention of these diseases is not a matter of vaccination but is a matter of early diagnosis and isolation.

The prevention of communicable diseases in general is the province of the Sanitary Corps of the Army. This is a problem that takes into consideration general public health measures concerned with water purification, food and milk inspection and sewage disposal. All of these require special application of accepted public health principles. However, this article is not the place to consider these important phases of the situation.

Science has implemented the armies of the world with effective agents to prevent certain diseases. It is to be hoped that these implements will be supplied

to our armed forces as unstintingly as we supply guns and cannon.

DISSECTING ANEURYSM OF THE AORTA WITH MULTIPLE TEARS ASSOCIATED WITH POLYCYSTIC KIDNEYS AND HYPERTENSION

(Continued from page 25)

The best treatment of these people is to leave them alone. There is only one indication for surgery and that is massive hemorrhage or marked abscess formation.

Dr. Kirshbaum: Recently some authors have attempted puncturing the cysts in the kidneys with the idea of relieving pressure on the arterioles and thus permitting a drop in the hypertension.

HEALTH IN WAR-TORN BRITAIN

(Continued from page 18)

the first year of the war, measured in calories per head, was within 1% of the corresponding peace-time value, and there will have been little difference in the second year. The actual diet has in most cases been reduced in protein and fats, and increased in cereals and vegetables. The greatest need is more protein and more secondary foods to diversify the diet—a need which the United States' supplies of cheese, canned fish, eggs, prunes will go far to meet.

A further development is communal feeding—notably the "British Restaurants," established by local authorities with the backing of the Ministry of Food at which families engaged in War Work may have a two-course hot meal for ridiculously low prices. At the present, these restaurants serve some 200,000 meals a day and with planned expansion will reach the half-million mark.

Another battle in the campaign against the vultures that hover in the wake of War's destruction has been the improving and expanding of medical services.

Every man and woman in Britain has access to private medical service. Under the National Health Insurance Scheme (instituted in 1912) every worker has an "Insurance card" on which a stamp is stuck each week, the employer being responsible for a part of the cost. These contributions entitle the worker to medical attention by a "Panel" doctor as often as it may be necessary, either in the surgery or where the patient lives. Most of these "Panel" (Health Insurance) doctors also have private practices; and no distinction is made, either in attention or treatment, between the Insurance patients and those paying normal fees. The scheme also covers the supply of

medicine, optical treatment, and other branches of Public Health. 21,500,000 men and women are included in the scheme, and another 500,000 are being added by recent legislation. In addition, the Contributory Pensions Scheme (instituted in 1926) operates on similar lines for the provision of pensions to aged persons.

Health Insurance is only one of the many normal medical services that carry on unaltered in war—extended and augmented as necessary, in areas where the population has been swollen by evacuees or extra munitions workers. For instance, over 200 country mansions have been equipped as Emergency Maternity Homes, in which evacuated mothers may have their babies. More than 25,000 babies have been born in them up to May 1, 1941. There are hostels for the elderly, and nurseries where women munitions workers may leave their children when they go on duty.

And so, it seems that many experts have muffed the \$64.00 question—for a crusade to keep Britain "fighting fit" is continually being fought—and won!

MISTER, CAN YOU SPARE SOME BLOOD?

(Continued from page 7)

try to improve anything because we know it's hopeless."

The social service worker smiled quite bleakly.

"While we feel that things as they are, are much better than they have been and can still be improved. Then the things that will be, the things that are tomorrow, will still need and obtain improvement. On this score I realize that there is a tremendous overlapping of agencies. I admit that sometimes I get tangled up in my own red tape. But I do live in a hope given me that my work is worth while. For instance today, I sent a patient out who I know will never be a patient of yours here, again."

"To what undertaker?"

The remark was ignored without visible effort.

"We had a patient admitted one month ago. He was panhandling on the corner of Pockelewski Boulevard and O'Brien Terrace, when his gastric ulcer perforated. He was operated upon here and after a stormy convalescence, was ready for discharge. I happened to be at the desk when he was admitted but I didn't get his history at the time. It was an emergency and they rushed him to surgery. For that reason, because his history sheet had not been filled and because of another peculiar circumstance in connection with this case, he was sent to my office after the resident had signed him out."

"A perforated ulcer? He'll need a follow up." The chief was again a physician.

"Medically, yes. But socially even more. Let me tell you about the reason for my interest in this case. It appeared that he wanted to give us a pint of blood. Said he owed it to us, that he wanted to repay it when he had it to spare."

"He said that he owed us a pint of blood?" The doctor wrinkled his forehead in puzzlement. "I've heard of people owing a pound of flesh, but a pint of blood? Are we coming to this?"

"It appears that this man got a pint of blood by transfusion. He thinks it saved his life. And maybe it did."

"Oh, well. There are often transfusions given in such cases," said the chief, shrugging. "That's part of our job. This patient owes us nothing. He may have an obligation toward the relative or friend—or the charity—that provided the blood. But ——"

"That's just it. There was no relative or friend. Nor was there a charity to which we could appeal. And this city has no funds for professional donors," she added with a trace of bitterness. "There was no donor to be had, but the blood was furnished."

"How's this? Blood without a donor? I don't understand. You may be able to get blood out of a turnip—in fact we're doing it these days, but hardly enough for a transfusion. There must be some mistake."

"There was a mistake. You see it was this way. A pint of blood had been withdrawn for another patient. This blood was set in the ice box—for what reason, I can't imagine ——"

"Probably to cool off," suggested the doctor, sarcastically.

"Anyway, the patient for whom it had been intended died before the transfusion could be given. The interne gave the blood to this man about whom I am telling you. And now this man wants to give some of his blood, in turn, to somebody else who might need it."

The chief said nothing for almost a minute. It could be seen that something was crystallizing in his mind. Finally he began to speak.

"The transfusion situation has always been a mess around this hospital. It is a trivial procedure that always has to be an emergency. Getting a suitable donor has always been a rush job, and we are never entirely satisfied that the blood we have given will stack up one hundred percent. In fact, as you know, we have had two cases of scarlet fever in its very early stage where it didn't show up until after the transfu-

sion had been given. Sometimes we haven't time to completely rule out syphilis from the blood of our donors. All this wouldn't be if we could keep a supply of blood on hand."

"You mean—keep blood in an ice box?"

"Well, the Russians have been doing just that for some time now. They claim that it will keep for weeks. They have been using cadaver blood drawn from healthy dead people—I suppose one can use the term, healthy dead—those killed accidentally, for instance."

"Why shouldn't we, then, if the Russians do. After all, we have so many accident cases that reach the morgue."

"Yes, but we face a different situation in this country. The Russians have their own problems and particularly, their own temperaments. We must cater to Anglo-Saxon sensibilities. I'm afraid that cadaver blood is out of the question. They won't stand for it."

"Why, scientifically, that's ridiculous."

"I know it is. But it's a fact. We'll have to have the blood of living donors."

"Well," said the social service worker, weakly. "The patient about whom I told you wanted to give a pint of blood for the asking. He said that he felt he owed it to us."

"Fine. We may collect, at that. Now send me that interne, wake up the members of this conference, and that will be all for today."

The interne was ushered into the room. "Young man," said the chief magnanimously. "I ought to have you fired. We don't want internes around here who think for themselves. We have trouble enough as it is. However, you've given me an idea and I'll excuse you this time. Don't let it happen again."

And so was born the Blood Bank.

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THE QUARTERLY

SYMPTOM DIAGNOSIS, by Barton and Yater, (3rd Ed.), Appleton-Century Co., 1936, 891 pp., \$10.00.

The authors have arranged a text which is excellent for desk use, a means of quick reference for the general practitioner in his office. It is essentially a means of looking up, in a rapid fashion, the causes of various symptoms offered as a complaint by the patient or of signs which may be elicited by the physician or surgeon.

The method of indexing and cross references is efficient and simple. The symptoms and signs are arranged regionally and may be found so grouped in a table of contents. The caption note presents the sign or symptom and such general information and consideration thought necessary. This is followed by a list of the conditions, in order of their importance, in which the particular sign or symptom is prominent. Under each disease the important characteristics are presented together with a page reference to a more detailed discussion of the condition.

There are two indices to be found at the end of the book. The first is one of symptoms; under each of the latter there is a complete list of causes. The second is a complete list of diseases with symptoms as subheadings under each.

The authors do not recommend this work as a text for study, but rather as a handy aid to a stubborn memory and a time saving device.

S. ALPERT.

Research has brought forth the fact that the caduceus as now used, the two serpents entwined about a staff, was really an ancient symbol of peace carried by heralds or ambassadors, or placed on merchant vessels. Wings on the staff were added symbols of Mercury, the ambassador of the gods. The proper Aesculapian symbol should be a staff with but one unwinged serpent.

RAYMOND L. REDHEFFER

(Continued from page 27)

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